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FARM AND FIRESIDE

THE NATIONAL FARM PAPER

EVERY OTHER SATURDAY

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The Hen and the Golden Eggs

By William Ellery Leonard, After Aesop

A Cottager and wife possessed a Hen
Who laid each day a golden Egg again;
So each one thought that in its fair inside
A lump of gold there surely did abide.
And thus they killed it in the hope of
gain,
And found no more than entrails, quite
as plain
As fill the insides of all mortal chicks.
The foolish pair were in a silly fix.

Moral:

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FENCE

With the Editor

IN OCTOBER, I attended the first National Social Center Conference at Madison, Wisconsin. This conference is composed of men and women who want better use made of our public buildings. Schoolhouses, churches, town halls and other public buildings stand empty most of the time.

Why not use them? Your money and mine built the schoolhouse—why not use it in vacations, on Sundays, evenings, and whenever we can find profitable, social use for it? Why not build it for the use of the whole community?

The conference asked me to speak, and I did so. I called my subject "The Rural Awakening." I want my FARM AND FIRESIDE readers to know the line of my argument, and I'm giving over this page to a reproduction of some things I said:

THE invention of the modern school-desk has rendered the rural schoolhouse less convenient physically for public meetings than was the schoolhouse of forty years ago. Then there was a broad bench against the wall all round, upon which grown-ups might comfortably sit; and the big desks made of boards, while inconvenient for the children, were not only comfortable for adults, but were necessary by reason of the fact that boys and girls ordinarily continued to attend school in the country until they married. Thus, while the need for the schoolhouse as a place of neighborhood resort has seemed to decrease through building of churches and public halls, the schoolrooms themselves have become increasingly uncomfortable for gatherings of full-grown people. In fact, they are almost impossible for such use.

In the meantime, country life lost much of its vim and vitality. The old-fashioned "literary" has almost ceased to exist as a rural institution. These and the spelling-schools were occasions of great social interest. Both have in great measure disappeared from rural life. The splendid vigor of a generation of pioneers created a considerable social feeling in most rural communities. People who were buying land, taking homesteads and making homes were interested in the neighborhood which they were creating; far more intensely interested than are the farmers to-day who are preparing to desert the neighborhood for the city, or the tenant farmers who succeed them upon the farms. Rural life has gone through a process of devitalization which is partly the cause and partly the effect of the tremendous suck of the cities upon country population. Individually, the farmer may be a hopeful, a vigorous and an efficient man, but, socially, the typical farm community has been, and is, not vigorous, but weak; not hopeful, but pessimistic.

In spite of the increasing prevalence of landlordism, I believe that rural social life in America has reached the bottom of its depression and that a great rural awakening is beginning. This awakening manifests itself in a thousand ways. Out of the vast mass of decadent and useless country churches there are emerging a few active, alert, growing and triumphant rural parishes. The Young Men's Christian Association and the Young Women's Christian Association are beginning to pay that attention to country life which its importance demands. The fact is coming to be recognized that while our modern social maladjustments have driven poor people together by myriads in the cities forming the slum, the same influences have been driving hundreds of thousands into abject and lifeless apathy and a sort of sluggish misery in the sparsely settled spaces of the open country in a social decadence for which we have no name, but which has sometimes been called the country slum. One phase of the magnet's action is the crowd of steel filings at the pole. This is the slum. The other phase is seen in the dispersed atoms outside the field of force, and this is the demagnetized population of the rural districts. Through extension work, demonstration trains and demonstration farms; through the short course and the farmers' course; through lectures and through the periodical visits of agricultural papers, life is being brought to these dead places in society. There is no agency, however, which can compare in efficiency with the new kind of rural school which is beginning to appear. This is the school which is correlated to country life. Most rural schools now are bad copies of poor city schools, just as most rural churches are bad copies of poor city churches. But the light is breaking, the country school of the future will be one in which teacher, text-book and course of study shall all be interpenetrated by the truths which inhere in agricultural science.

Now when this time comes and as it comes, the social-center movement should prepare the way for and assist in the work of making the rural school a really useful center for the social activities of the district, and in doing so the social-center workers should avoid the mistake which has been made in the past in rural schools and rural churches. The rural social center should not be a copy of the city social center. It should correlate with rural life and be interpenetrated by the needs of the rural life. The waste of work in our schools is an enormous part of our lack of national efficiency. When children know that their work is useful, they take vastly more interest in it. And there is an infinite amount of strictly educative and educational work which ought to be done in the schools, and through which the schools may be brought into such intimate contact with the community about them as to make of themselves social centers, the only sort which can ever be broadly useful, those which grow out of the needs and desires of the people themselves. The country school should be a place where the child is useful, pupils and parents all working together upon the problem of farm life.

When the school of which I am speaking is fully developed, no farmer will think of planting seeds until they have been examined in the school for the purpose of testing their genuineness and their freedom from noxious adulteration. Tests of soil will be made in the school laboratory. The examination of farm animals for tuberculosis and other diseases will be to a considerable extent done in the schools. Tests of milk will be made and in the school-yard will be developed strains of poultry of supreme excellence for either egg or meat production. The keeping of accounts on the farm is so complex that no farmer under ordinary circumstances is able to keep an adequate set of books. And in the country school which I have in mind will be the counting-room of the neighborhood, in which a complete cost system will be kept by teachers and pupils and comparisons made as to relative profits of various farms in the neighborhood, which will gradually change agriculture from its present status to that of a business conducted upon the exact lines which characterize the business factory methods. The girls will take part in all these things and in addition will study economical and satisfying management of homes.

Does that sound visionary? Well, one of the privileges of life is to be visionary. The dreams of yesterday are the prosaic facts of to-day. A man flew this year from the Atlantic to the Pacific—but Darius Green was a dreamer!

Herbert Quick

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Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

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BI-WEEKLY

"Victor's" Lesson to Us

THE Iowa State College has again shown that it can fit a bullock for a show. Its great Angus steer "Victor" was grand champion in the International Stock Show at Chicago. It may now be taken as proven that the colleges, by a system of feeding and care which takes into account no such prosaic matter as expense, can beat the world in loading fat upon the frame of a steer and still keeping the animal in prime condition. Now that the fact is proven, why spend the money of the taxpayers in proving it over and over again? Just what educational benefit comes from the practice? Why not show the world—and incidentally the students, who are supposed to be studying farming—how prime beef may be produced at a profit? Not that the colleges neglect this latter phase of the subject; but that there is a restiveness among educators, stockmen, and in the public mind, at what seems to be a rather fruitless striving on their part after beef showiness, we think there can be no doubt. It raises, for one thing, a question that ought never to be legitimately asked. The question is, "Are the colleges practical?" The answer is, "They are!" But is their practical character to be proved by their fat-stock exhibits? We doubt it.

The Area in Wheat

THE census shows that the acreage in wheat in this country in 1909 was less by about one sixth than in 1899—a falling off of eight and a quarter million acres. In Iowa the loss has been more than half, and nearly half in Michigan and Ohio. Thus, we see, the decrease holds good in both the winter-wheat and spring-wheat states. North Dakota, Kansas and the other states with new lands show increases. But the future is certain for them. As soon as the one-crop system shall have developed in their soils the excreta and fungi and bacteria which seem to be the cause of the failure of the wheat crop under such conditions, they also will show decreased acreages. Western Canada and the new lands of Argentina will take their turn for exploitation—until the new lands are exhausted. Then, perhaps, may come the renaissance of wheat in the supposedly worked-out soils. Iowa could grow more wheat to-day than she ever did—if it paid. And there are those who think that winter wheat has its proper place now in the rotation in all the corn-belt states. If not now, the time is coming when it will have.

A Montana Way

OUR in Yellowstone County the county commissioners appropriated \$250 for a boys' and girls' corn contest. Those who think Montana out of the corn belt are respectfully reminded that her experiment station shows a profit of fourteen dollars an acre on corn raised for the grain, and eight dollars on fodder-corn—so the boys and girls had a fruitful field in which to work. Every school district in the county was represented in the contest. There was an average of nine entries per school. "Minnesota 13," a pedigreed corn, was coaxed by one pupil into yielding a hundred bushels to the acre. A hundred ears from the county show went to the land show in New York City—and the schools are alive and up and coming for next year. Could better value have been obtained for the \$250? Thus we ruralize the rural school.

Not long ago a horse that had been stolen from a man in Chicago came trotting home a week later, equipped with a new harness and a good wagon. That was horse sense for you. If it had come home empty-handed, its owner might have thought that the horse had run off.

It doesn't pay to make a slave of yourself, no matter how good the pay is.

Take an invoice of your property once a year, so you will know what you are worth in dollars and cents.

Your reputation for veracity will suffer if you boast of your tender heart while you are driving a dock-tailed horse.

Six Years of Dry Farming

FACTS relating to dry farming of real value to the farming world are beginning to be developed. In Montana, for instance, six years of experiment at a dozen demonstration farms yield results on which farmers may rely. The six years take in the years from 1905



The school—a social and intellectual center

to 1910 inclusive—believed to be years of normal average rainfall; so that crops which have been profitable on the average during this period are likely to be safe crops for settlers.

It is encouraging to learn that Turkey Red fall wheat has yielded an average of 32.45 bushels and paid a profit of \$14.47 per acre. Three Russian varieties have paid profits of \$17.62, \$21.30 and \$16.31 per acre respectively, but have been grown at one station only. Sixty-day oats have averaged in profit \$8.18 per acre, and other varieties made showings nearly as good. Some varieties of barley have done better than the oats. Rye and flax have made as good a showing as barley. Corn, even in that northern latitude, has made an average profit of \$14.93 per acre.

Other profits per acre are, alfalfa, \$14.43; corn-fodder, \$11.74; brome-grass, \$8.95.

The best showing is made by the potato crop—an average profit of \$41.99 per acre.

All these profits are reckoned after the cost of plowing, disking, tending and harvesting has been paid for at fair wages, and seed at the market price. In other words, the above profits are what the farmer could have made by taking as good care of his crop as the experiment-station people did of theirs, over and above going wages and cost of seed.

It makes a good showing for Montana dry farming. Many farmers in the humid regions will feel envious of such profits.

Many in the dry-farming regions will wonder why they have not earned such returns. The answer is: good dry farmers are as scarce in their habitat as good farmers elsewhere.

Free Sugar and the Farm

GOOD refined sugar often sells in London at from two cents to two and a half cents a pound. With sugar on the free list, we could get from forty to fifty pounds for a dollar in most parts of this country most of the time.

Sugar is one of the best of foods. In tests made in the German army to determine what single food will keep soldiers on their feet longest in marching, the palm was awarded to sugar. It can be produced in the tropics for less than can any other great food product. England gives her people the benefit of this wonderful provision of nature for feeding the race.

And with this cheap sugar England leads the world in the making of such things as jams, preserves, marmalades and confections in which sugar is used. This is a splendid thing for the producers of vegetables, berries and fruits. All these products are used up at high prices, and shiploads are imported every day from the truck-patches, orchards and small-fruit farms of France, Holland, Belgium and other near-by parts of the continent.

If we had free sugar, the farmers of the United States would receive similar benefits. The market for the products of the orchards and fruit farms would be improved, the factories which put up such products would employ more labor, the cost of living would be lowered.

Why do we keep sugar out? To build up a home supply? The experience of half a century definitely proves that we cannot produce enough, and that we cannot hope ever to produce it cheaper than now. The Sugar Trust is the chief beneficiary of the tariff, and one would think that its criminal record has robbed it of any claim for consideration which it may once have seemed to possess.

The Louisiana sugar industry? The beet-sugar industry? Well, if they are dependent on the tariff for existence, we should be far better off if we would admit sugar free, buy the factories and dismantle them, and take the sugar-

cane and beet lands off their owners' hands. We pay annually a hundred millions in additional prices for sugar, in order to "protect" the production of about \$34,000,000 in sugar.

In other words, we pay three dollars to buy one—for somebody else!

This is the common sense of the sugar question in the United States.

To the hog an ear of corn in the pen is worth two in the bushel.

A friend is a man who shows up quicker when we need him than when he needs us.

Save Ice

THE family without ice in summer is losing money and enduring needless hardships. Usually the work in winter allows of the putting up of ice without much expense. It may be cut in river, pond or lake, or bought for a reasonable price at the place where cut by the town ice-man. Any good handy half-mechanic knows how to build the ice-house. Your experiment station will send you plans, no doubt, if you ask for them. Back numbers of this paper give such plans. And if you haven't the plans nor the funds, dig a deep pit—say ten feet deep—cover the bottom with straw, put in alternate layers of straw and ice, keep it covered with straw, and in summer you will find your ice as cold as if in a thousand-dollar edifice. It's a little unhandy in the getting out, but if you keep it covered with straw it will keep, and it's ice. Any kind of ice looks good in August. Whether house or pit, put it in a shady spot.

"Smite the Rodents!"—A 1912 Battle-Cry

By John Snure



"SWAT the Fly" is a meritorious slogan. Well does humanity lift its war-cry against this pestiferous foe. But while attacking the fly, while "swatting" it, let us not forget the human race has other enemies. The proportions of their ravages are all too generally overlooked. In the whole scheme of created things humankind has no more persistent, pertinacious and troublesome enemies than the rodents. It is proposed here to tell something of them. One cannot study these marauders among mammals without being impressed with the magnitude of their depredations and without seeing the need of a campaign whose slogan shall be "Smite the Rodents."

Strange as the statement may at first seem, it is conservative to place the damage done yearly by rodents in the United States at \$150,000,000. The economic loss due to such common rodents as rats, mice, ground-squirrels, chipmunks, prairie-dogs, gophers, muskrats, woodchucks and rabbits is astounding. Exact data is, of course, not obtainable. A writer in the *American Agriculturalist* once estimated that rats alone caused this country losses of \$10,000,000 a year. France loses \$40,000,000 annually from rats and mice, according to estimates. Dr. D. E. Lantz of the Biological Survey considers this country's losses several times greater. Sir James Crichton-Browne of the English Incorporated Society for the Destruction of Vermin puts at \$73,000,000 per annum the damage done by rats in Great Britain and Ireland, in the rural sections alone. One can only conclude from such figures that an estimate of \$150,000,000 for this country is low. According to Dr. C. Hart Merriam, former chief of the Biological Survey, agriculture in this country suffers \$10,000,000 a year from the ground-squirrel alone.

The bulk of this loss falls on the farmer. The rodents do not spare him, despite the fact that he must also contend with insect enemies and plant-diseases. House rats and mice are at home, however, in town and country alike, and everyone, therefore, is concerned in exterminating the rodent population.

They Carry Disease!

Complete extermination is, obviously, impossible and there are certain circumstances wherein some of the rodents do good. But, as a tribe, they deserve the severest indictment. This indictment would be severe enough if it related alone to actual depredations caused by quest of food. But this is only part of the story. Consider the grave danger to human life in the germs of bubonic plague disseminated far and wide by the California ground-squirrel. This danger has become so great, far exceeding any harm caused by destruction of crops, that it is a matter of national concern. Ground-squirrels near San Francisco Bay first became infected with the plague, and from them others farther back in the country. The Public Health and Marine Hospital Service has spent hundreds of thousands of dollars trying to wipe out the plague-infected squirrels, but the task is great, and the plague has killed off numerous persons, victims of ground-squirrel infection.

The rat and the mouse are even worse disease-carriers than the ground-squirrel. The rat has long been especially notorious. In fact, the ground-squirrels about San Francisco first contracted the bubonic plague from European rats in the towns about the bay.

To write the full story of the war between man and destructive rodents would take many volumes, but they



would be fascinating ones. It is not easy to conceive of any more interesting lot of biological specimens than the hordes of rodents who beset mankind at every turn, gnawing, burrowing, devouring and, worst of all, carrying from house to house, seaport to seaport and railroad center to railroad center the germs of the dread plague or other dangerous disease.

Foremost of them all stands the rat, chief of the mammalian pests, more troublesome to man than all the lions, tigers, wolves and catamounts combined. And worst of the rats is the brown rat, whose history goes back centuries, into every corner of the civilized world.

Certain wood-rats are native to the United States. But the brown rat, the black rat and the common house-mouse are importations. The sailing-ship of an ancient explorer brought the black rat from Europe in 1544. About 1775, the brown rat crossed the Atlantic. Larger, fiercer and more cunning than the black rat, it drove the latter from its newly settled home, pushed it farther and farther back, and now the black rat is rare in most parts of the United States and Canada. But the brown rat, the common house or wharf rat, known everywhere, thrives and multiplies in spite of all efforts to combat it. This could not be were it not extremely prolific. How prolific it is may be indicated by the fact that in Washington, D. C., nineteen young rats were recently found in a single nest.

Striking Instances

Rat migrations, invasions and plagues were well-known in Europe in olden days. Everybody recalls the tradition of the Pied Piper of Hamelin. In 1903, a multitude of migrating rats spread with great suddenness over Mercer and Rock Island counties in Illinois. An eye-witness of the phenomenon avers that one night as he was returning home by moonlight he heard a general rustling in the field near-by, and soon a vast army of rats crossed the road in front of him, going all in one direction. The mass stretched away as far as could be seen in the dim light. Through the winter and summer of 1904, there was in this region a veritable plague of rats. A single farmer, F. U. Montgomery, of Mercer



A campaign is needed, whose slogan shall be "Smite the Rodent!"

County, killed three thousand four hundred and thirty-five rats on his farm, catching them mostly in traps.

Sometimes destroying alone, sometimes devastating in hordes, the rat is practically omnivorous, a pest for what it eats and for what it ruins, at home anywhere, ready to drink milk, devour an egg, consume a young chicken or gnaw the bark of trees. Rats do enormous damage to cultivated grains. They follow it relentlessly from the time it is sown in the ground to the time it is in warehouse. They dig up the seed, and eat it in shock, stack, mow and mill. Entire crops have been ruined. Rats are a foe to poultry, a pest in game-preserved, destructive to fruits and vegetables. Heavy losses are inflicted on merchandise in stores, markets and warehouses, and on houses and furniture. Insurance companies a few years ago estimated that \$15,000,000 annual fire loss was caused in the United States by defective insulation of wires, and rats and mice are the chief agencies in impairing insulation. From careful inquiries, Doctor Lantz calculated the direct annual rat loss to the people of this country in cities of 100,000 or over was \$20,000,000.

What a Rat Will Do

Almost unbelievable are some of the things done by the rat, this selfsame squealing, filthy, gluttonous, all-pervading, all-destroying brown rat. Rats often gnaw the hoofs of horses until the blood comes. They have been known to attack fat hogs, and eat holes in their bodies, causing death. They will fight human beings if cornered. They often steal valuable articles to use in building nests. The following were found in a single nest: Three bedroom towels, two serviettes, five dust-cloths, two pairs of linen knickerbockers, six linen pocket-handkerchiefs and one silk handkerchief. This same rat, which was a model of industry and thrift, had carried away and stored near its nest a pound and a half of sugar, a pudding, a stalk of celery, a beet, carrots, turnips and potatoes.

In the last dozen years, over 5,000,000 human beings have died from plague in India alone. The India Plague Commission, after careful inquiry, found that bubonic plague in man is entirely dependent on the disease in the rat!

Marvelous in its destructiveness is the common house-mouse, closely related to the rat and, like it, imported from Europe. The field-mouse, too, is highly destructive, the most destructive to agriculture of all the rodents.

Swarms or hordes of them have committed devastations in Europe and Asia from early times, and this country has suffered such visitations. The plague of field-mice in Nevada, Utah and northeast California in 1907 and 1908, when alfalfa-fields were ruined, shade-trees



In Washington, D. C., nineteen young rats were found in a single nest

girdled and killed, and root crops destroyed, was one of the worst. The loss in a season was put at \$250,000. Birds and mammals destroyed many of the mice, but systematic poisoning by representatives of the Biological Survey was the remedy that proved effective, though not administered in time to prevent great damage.

The common chipmunk, closely related to the ground-squirrel, and distributed over most of the United States, is a troublesome pest. Recently, the Forest Service has had trouble with it in reforestation. Armies of chipmunks dig up and eat the tree-seeds as soon as planted. The same is true of some kinds of ground-squirrels and of field-mice.

Ground-squirrels, highly destructive to agriculture, damage grains, vineyards and young orange-trees along with many other depredations. They carry in their ample cheek-pouches acorns, olives, various seeds and grains, and even green stuff from the places where they gather them to their burrows, where the acorns and seeds are stored for future use. Almond-trees in California and orange-trees are gnawed and damaged. Heaviest losses, however, result from their grain depredations. They attack it from sprouting kernels to the thrashed product, carrying all they can to their underground storehouses. In grain-fields, they first clear off the grain around the borders, and then establish colonies of burrows in the interior. They burrow in embankments and cause breaks in irrigation ditches.

All Rodents Guilty

The pocket gopher, found in much of the West, in Florida, Georgia and Alabama, causes damage by burrowing, is highly destructive to crops, and throws up mounds which are the cause of heavy damage. The gopher girdles trees, and part of an apricot-tree, five inches through, ruined in this manner, is shown by Dr. A. K. Fisher of the Biological Survey.

Much might be written on the damage caused by the prairie-dog in the range country, or of the damage done dikes, dams and irrigation ditches by muskrats, or of the losses caused by the timid but troublesome rabbit. The rabbit, whether the cottontail or jack rabbit, has taken a place as one of the worst of the rodent pests. Larger than rats and mice, and almost as prolific, they often inflict on crops and trees damages even greater than those caused by field-mice. The rabbit is especially fond of "garden sass," and many a market-garden has been ruined by it. Rabbits cut off the ends of twigs or branches of shrubs and trees, and eat the bark. They hamper reforestation. They work especial havoc in young orchards.

Thus, it appears, the indictment against the whole rodent tribe is that it is guilty of all sorts of high crimes and misdemeanors against hapless humanity, which has to struggle against the stratagems and spoils of high financiers at the top and the wiles and cunning of the burrowing, gnawing, pillaging rodent underneath.

Expert methods of trapping, poisoning and otherwise getting rid of rodents have been worked out by the government scientists. They are not theories alone, but tried and practical methods. It is given as the deliberate opinion of the Biological Survey that probably the greatest factor in the increase of rats, mice and other destructive rodents has been the persistent killing off of the birds and mammals that prey on them.

Wise old Mother Nature evidently had well-laid plans matured to smite the rodent and do it, so to speak, automatically.

Unfortunately, we have almost completely disarranged the balance of things, and are paying the penalty.



The conservation of our rodents



On this farm is a large Gurler silo—some say, the largest in the world



On this farm, too, the silo pays big returns

Coöperative Effort Spells Success

By George H. Dacy

LAST year the little district of Lake Mills, Wisconsin, sold \$300,000 worth of high-grade and pure-bred Holsteins through the efforts of their local community breeders' association. For thirty years the Holstein has been the premier dairy cow of this region of rolling meadows and luxuriant pastures. Black-and-white popularity dates from the introduction of Bensie II., an excellent type of high-milking Holstein whose progeny have placed Lake Mills foremost among the leading Holstein centers of America.

It is quite remarkable what community effort can accomplish in the way of breeding a specific kind of dairy cattle. Up to the time of the organization of the Lake Mills Coöperative Club, each breeder of that territory worked out his own salvation, so to speak, and met with innumerable and, in many cases, insurmountable difficulties in his attempts to mature and profitably market his stock. In the first place, the individual expense in combatting disease, in developing a uniform type, in advertising the herd, and in the sale or purchase of animals was very considerable. In addition, it involved an era of keen competition, when each breeder was trying to outdo his neighbor and selfish motives, seeking individual maximum profits, predominated.

Lake Mills Holsteins

Then the farsightedness and wisdom of a few of the local Holsteiners was displayed in a movement to organize a coöperative association and to develop a uniform type of Holstein cattle which would ultimately be known far and wide as Lake Mills Holsteins just as readily as though the animals bore the stamp of a specific trade-mark. The project was successfully put through, and the Lake Mills Holstein Society was launched on its decidedly significant career. The movement had for its object the production and improvement of high-grade and pure-bred "black-and-whites" and the establishment of cordial relations and coöperation between its members in the practice of such methods of care and management as would insure the most successful and economical results. Each member

pledged himself to improve his herd by mating his cows exclusively with pure-bred bulls of his chosen breed; to care for his herd in an up-to-date manner, and to coöperate with his fellow members in the use of pure-bred bulls, in buying and selling animals, and in promoting the general welfare of his community along the lines of dairying.

In commenting upon the benefits derived from organized effort, a prominent Lake Mills breeder remarked, "Where each man formerly worked for himself, we now all pull together, and fifty pairs of shoulders pushing in one direction accomplish just fifty times as much as the same number striving individually in different directions. Formerly our cattle represented promiscuous, haphazard breeding, while to-day united effort

the individual breeders can inter buy and sell among themselves when necessary without going to the expense of traveling and paying freight charges, and at the same time they will be more sure concerning the quality of the product they get than where they make purchases of strangers. The temporary exchange of bulls often revives the waning vigor and condition of a herd due to the infusion of new blood. Especially valuable results obtain from the concerted advertising and publicity rendered possible by organized effort and the advanced facilities for marketing stock. At present the prospective purchaser, well-informed regarding Holstein centers, will immediately visit the Lake Mills district in order to inspect its offerings. Extensive and timely advertising has popularized this locality as a producer of Holstein cattle of exceptional merit and quality, while the test of time has staunchly confirmed local guarantees. This partially explains why breeders in the vicinity of Lake Mills have been unable to produce enough dairy cattle to satisfy the demand for stock of their excellent capacity and character.

What of Coöperative Breeding

At the present time this district is probably one of the most representative of the coöperative community breeding organizations in America. The casual visitor to this locality is immediately impressed with the excellence of the farmsteads; the sanitary condition of the commodious, efficiently constructed barns; the quality of the sleek, well-conditioned cattle; the uniform freedom from weeds of the well-fenced fields, whose fertile acres produce bumper crops. He questions an old settler regarding the agricultural practices of the countryside, and is informed that Holsteins and coöperative breeding have accomplished these marvels. The stranger, although little informed in the lore of agriculture, then says, "Well, if the maintenance of Holstein cattle and the practice of coöperative breeding can transform an ordinary farming district into a region of banner country places indicative of maximum prosperity, let us hope and pray for much similar coöperation."



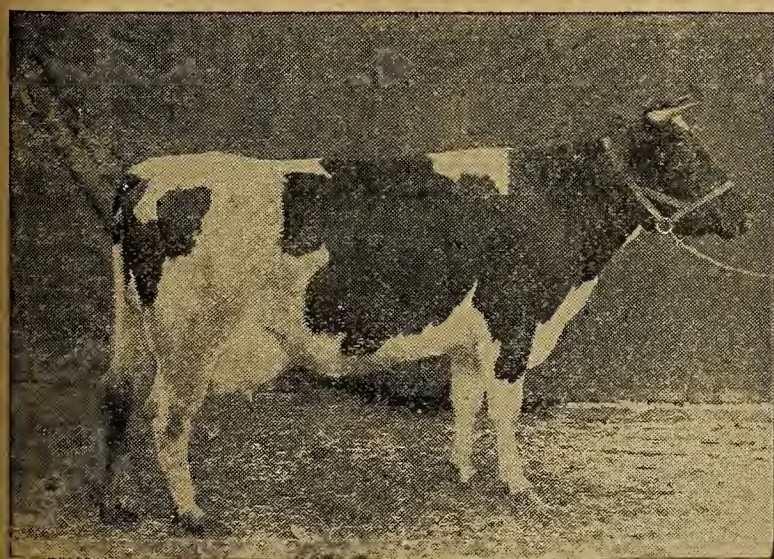
This lot of heifers would recommend any community

has developed a specific type and has enabled all of us to share proportionately in the splendid results. However, I consider that the opportunity that such an organization affords its members to keep informed regarding all that pertains to success in their work is most important. Through the medium of our meetings we exchange helpful ideas and get the experiences of prominent breeders whom we invite to address us. In this way we remedy and control many evils and annoyances with which the average individual dairyman is not able to cope."

What Organization Does

The breeders' society enables its members to materially reduce the cost of testing their animals for butter-fat production or for tuberculosis. An official tester can be kept busy for some time in a coöperative community, and the expenses can be minimized by pro-rating them among the association members who avail themselves of his services. The same is true of the tuberculin tester. Holstein breeders have an excellent opportunity to further reduce these charges by competing for the annual prizes for maximum production offered by the Holstein-Friesian Registry Association.

After a community has become established in its breeding operations,



A Lake Mills heifer



Sir Ormsby Johanna DeKol 37689—A bull with a record

RECENTLY thirty-five men who believed in the value of the Morgan horse, once prominent and plentiful, formed an organization to be known as the Morgan Horse Club. The chief object of this club was to perpetuate the Morgan breed of horses by preserving the original blood and type, rather than by trying to bring about improvement or change in size, speed or other features. This movement had its inception on the Vermont State Fair Grounds in the fall of 1909, where there was, as there always is at this fair, a large gathering of Morgan breeders.

These charter members were from the states of Illinois, Pennsylvania, New York, Connecticut and Vermont. Since then other members have been admitted. The work of the club has thus far been directed largely to the exhibition of Morgans, or, in other words, to advertising. They have offered prizes at state fairs, and through their efforts the exhibition of Morgans in 1910 and 1911 was the largest and best that the world has ever known. For the horse show at Madison Square Garden in 1910 six Morgan stallions and six mares were selected by the Club and exhibited in light harness. Bob Morgan, owned by A. R. Van Tassel of Dubois, Pennsylvania, was the object of much attention. His

Organizing to Protect Morgans

By Mrs. J. W. Mathie

action and speed even now, at the age of twenty-six, show well the lasting qualities of the true Morgan.

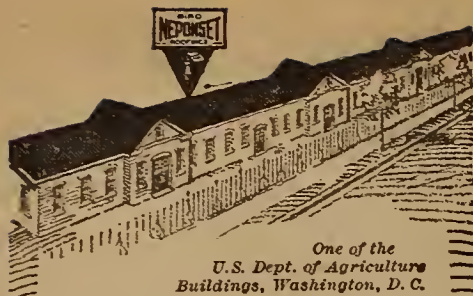
This year the Club appointed a competent man to buy Morgan geldings to be tested in the cavalry service. These have been secured and turned over to Captain Tompkins, military instructor at Norwich University, who has pronounced them fit for service. They will soon go to Fort Ethan Allen and into actual service. The object of this is to create a demand for Morgan geldings by the army. It is believed that this breed of horses is by far the most fit and enduring of any. Fifty years ago the First Vermont Cavalry went to the front mounted on Morgan horses, and no better horses ever went into the service.

The Club deplors attempts to introduce into this breed any but the qualities that first made them famous. Attempts to increase their size, their speed, or in any way to change them, has resulted in well nigh the extinction of the old type, and has not given us an improved breed.

While a strain of Morgan blood almost invariably improves any other breed acquiring it, a strain of other blood as surely detracts from the usefulness and beauty of the Morgan.

Forty-five or more years ago, Vermont abounded in Morgan horses, beautiful of form, possessed of great courage and endurance; of good dispositions, short-backed, round-bodied, small clean heads well set up, clean limbs and wonderfully good feet. The weight of the old-time Morgan was from nine hundred to one thousand pounds, and they stood about fourteen hands high. They were the best of light carriage-horses and were rapid draft-horses as well. While there never has been, and perhaps never will be, a two-minute Morgan, they are speedy enough to make the best of drivers.

The Government Farm at Weybridge is also striving to perpetuate and increase the Morgan horse, but in their line of procedure their work is widely different from that of the Club. They are striving to improve the Morgan by adding size, action, etc., and are not so exacting in regard to the blood lines of the old stock. Since there are at the present time few horses carrying any large degree of the blood of Old Justin, the Morgan Horse Club is working to develop the original breed.



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The Market Outlook

What the Year 1912 Will Pay the Stockman and Feeder

Is There a Startling Shortage of Meat Animals?

ALMOST every reader of FARM AND FIRESIDE is familiar with the story of the boy who was sent out to watch the sheep and to call for help if a wolf should come prowling about the sheep-pasture and who twice gave a false alarm by crying "the wolf is coming, the wolf is coming," when there was no wolf in sight, and how the wolf did come on another day, and when the boy called for help no one came, because no one believed in him.

There are boys of mature years who are continually using the false-alarm signals in order to attract the attention of the public. Not long ago a scare head-line appeared in an American farm paper which read "Provide Against Meat Famine Conditions. Startling Situation Developed by Federal Census Figures." Under this heading was found an article which would tend to mislead people in case the readers had not already learned to accept such danger-signals as a joke. The wonder is that anyone reads at all in these days when almost any fool statement can find its way into print and take precedence over sound statements of fact and principle.

Cattle in the United States April 15, 1910, and June 1, 1900

	April 15, 1910	June 1, 1900	Per cent. increase*
All Cattle	61,225,791	67,719,410	-9.6
Spring Calves	7,757,935	15,315,582	-49.3
Dairy Cows	20,580,845	17,135,633	20.1
Other Cows	11,788,473	11,559,194	2
Other Cattle	21,098,538	23,709,000	-11.

* Minus sign (-) indicates decrease.

There were twenty per cent. more cows kept for milk on April 15, 1910, than there were June 1, 1900. There was an increase of two per cent. in the cows not kept for milk. Race suicide does not exist among cows, hence it is fair to conclude that had the census been taken forty-six days later in 1910—that is, June 1st, instead of April 15th—there would have been more young calves reported in 1910 than in 1900.

On the fair assumption that there were as many calves per 100 cows on June 1, 1910, as on June 1, 1900, there were 17,275,000 calves on June, 1910, or an increase of twelve per cent. over that of 1900. On this basis the increase in total cattle in the decade would have been 4.4 per cent. instead of a decrease of 9.6 per cent.

The comparison of the statistics on calves for the two dates is of value only in showing that probably more calves were born after April 15th than before that date in a given year.

The figures show a decrease of about one sixth in the number of steers and bulls on farms and ranges in the United States. But the average age of a steer is shorter now than ten years ago. Beef-cattle are being put upon the market younger. With the use of better-bred sires, it has become possible to mature beef-cattle at a younger age.

It does not follow, therefore, that fewer beef-cattle are available for sale each year, although there may be fewer in existence on a given census day. For example, if on the average beef-animals were slaughtered at three years of age, one third of the count on a given date might be available each year, but if, as a result of breeding earlier maturing cattle, the average age were reduced to two years, half the animals counted on the given day might be available each year. It follows, therefore, that the census figures do not prove any decrease in the

number of animals available for beef annually. It may be true that the beef-supply per capita is on the decline. That has been shown true in previous decades. The per capita consumption of beef in the United States is very high in comparison with that of European countries. The proper thing, as population increases and our grazing areas are converted into farms, is to eat less meat and more vegetable foods. There is nothing alarming about such a change. The wolf is not at the door of the American people.

There is a lesson to be learned from the new statistics of beef-cattle. There seems to have been a decline of cattle breeding in some of the western grazing states. In Texas, for example, there was a decrease of thirty per cent. in the number of cows not kept for milk. A similar change took place in Kansas. This is doubtless due to the encroachment of the plow upon the grazing areas.

The dry-farming movement, throughout the semi-arid regions during the past ten years, has encouraged the conversion of ranches into farms. If this proves a profitable move, a decreasing number of cattle will be bred on the range to be fed in the corn belt, and it will become increasingly profitable to breed with a view to rearing steers in the corn belt. As a matter of fact, there was an increase of 33½ per cent. in the number of cows other than dairy cows in Iowa between 1900 and 1910, indicating an increase in cattle breeding exclusively for beef production in that state. The census may prove of real value to the American farmer in pointing out the profitable lines of readjustment in their types of farming. It appears that the decline in breeding in the old range states will make beef-cattle breeding as well as feeding a more profitable undertaking for the farmer of the corn belt.

Regarding the shortage of hogs and pigs on April 15, 1910, under that of June 1, 1900, little need be said. The following table gives the statistics for the two dates:

Swine on Farms in Continental United States, April 15, 1910, and June 1, 1900

	1910	1900	Increase* Amount	%
Farms reporting % of all farms	4,340,592	4,335,363	5,229	0.1
No. of all swine	58,000,632	62,868,041	-4,867,409	-7.7
Value all swine	\$398,002,978	\$231,973,031	\$166,029,947	71.6
Average value	\$6.86	\$3.69	\$3.17	85.9

* A minus sign (-) denotes decrease.

When it is borne in mind that the census was taken forty-six days earlier in 1910 than 1900, the fact of a smaller number on the latter date is not surprising.

The great surprise is that there should have been so many hogs in 1910 after the great shortage in marketable hogs in the winter of 1909-10. This shortage of hogs the winter before the census was taken, and the resulting high price of pork, was described graphically in an earlier number of this paper. The hog statistics for the spring of 1910 are valuable in indicating the rapidity with which the hog-supply can respond to the call of high prices and helps explain the present trend of prices on the hog-market.

H. C. TAYLOR, Wisconsin.

On the Sheep-Market

Improvement May Be Expected

ENOUGH has been said in these market letters during the past two months as to the depressed condition of the sheep trade and of its causes. Now and onward let us hope to be able to write of it more cheerfully. I had decided that my forecast of better things in November had proved wrong, and so turned sulky and hated to look a market report in the face and wrote disparagingly of my pet sheep month; but in its last week I was saved by a sudden jump of prices in the western markets on nearly every class of sheep and lambs, except feeders, of from 25 to 75 cents. Choice lambs were snatched up at from \$6 to \$6.50; yearlings sold freely at \$5.50; wethers, at \$4.35, and ewes, at \$3.75, and this improvement carried on steadily into December. Buffalo shared in this improvement and on some days went even higher than Chicago. Against this better state of affairs, however, it was always possible that heavy shipments of unfinished stock might turn up from somewhere and temporarily upset the market.

The story put out by the packers that their coolers were overloaded with sheep and lambs seemed to be contradicted by the freedom with which they bought at these advanced rates, and that they did but little sorting of lots that suited them. These signs seem to signify that, when the pressure of poor stuff has plainly ceased to threaten, a steady market at probably a shade or two

Farm and Fireside, January 6, 1912

better prices than those quoted above may be looked for till April brings out the fresh crop of early lambs, and we can tell what winter has done for the forage crops, and how the sheep generally have wintered.

Already the range feeders are said by *The Breeders' Gazette* to have about cleared out their stocks, and if this is so breeders of highly finished animals will have less to fear disturbances of the market, and a good spring trade may be looked for. Meanwhile the market affords a fair outlet for anything not quite up to the top mark.

Wool-Market

Reports from Boston give evidence of considerable strength and activity in fleece wools, but no change in prices. Ohio quarter-blood fleeces have sold freely at 25 cents and Michigans at 24 or a shade over. The demand for western wools is not so good; but dealers hold on firmly and make no concessions. Texas wools have been in good demand at from 17 to 19½ cents.

Outlook for the Future

The American sheep industry, especially as regards the mutton breeds, is in its infancy. New England and New York may not return to their old liking for sheep, for dairying seems to have pointed out to them a more shining way; and range feeding and breeding is rapidly giving way to the settler; but Texas has a great sheep future just opening up; and, as pointed out by the Illinois Farmers' Institute, a great part of southern Illinois is specially suited for sheep, while that branch of live-stock work is hardly found there at all, and they are just what is needed there to improve the fertility of the soil, and this applies to large portions of many other states.

The sum and substance, then, of this pronouncement of FARM AND FIRESIDE for 1912 as to sheep and lambs is, as it should be at the opening of a new year, and as far as the truth warrants, intended to be encouraging to all breeders and feeders of sheep of all ages; that is to say, so long as they are of the best breeds procurable, for of the scrubs and the half-fed ones we will talk no more. If the year 1912 does not see a marked improvement in prices and in qualities, the writer will lose all confidence in his powers of reading the signs of the times, and will leave the field to a younger and better equipped race of sheep prophets.

JOHN PICKERING ROSS, Illinois.

Hog-Market Uneventful

EASTERN shipping demand and the receipts at the yards are the governing factors at present of a rather fluctuating market. Each bulge in price brings a flood of shoats to the yards, causing a decline; then the opposite situation occurs, and the country holds back its shipments until the break has disappeared, then the whole operation is repeated. As soon as the heavy runs on the eastern markets subside, there will be many shipping orders placed in the hands of order-buyers at the western markets, and prices will advance accordingly.

Quality and weight are improving with heavy hogs in strong demand. They are the first to advance and last to decline, while the light stuff fluctuates up and down at every little change in supply and demand. The average weight of all hogs is still somewhat below that of the corresponding time last year; it is 211 pounds this year as against 232 pounds a year ago.

Reports from Kansas still tell of heavy losses from cholera, while the reverse condition is general over Nebraska. The Missouri River country, exclusive of Kansas, is expected to market large numbers of hogs later on, as all along this territory has been a light shipper and has had but small losses from disease. A sharp break in the provisions market occurred during the early part of December, causing the expected effect on the live-hog market, and a new low mark for the winter was registered, but the killers were unable to hold the prices down for any length of time. Stocks of provisions are increasing, but this is only an indication that they are beginning to catch up to the demand and are still far from the condition when they are able to supply the demands in the lighter packing season.

LOYD K. BROWN, South Dakota.

Notes of the Dairy

IT NEVER pays to keep more cows than one has help to handle and care for properly. even though one's acres are amply sufficient to support a large herd.

For those who cannot wait for their own cows to increase their herd, the best plan is to buy some good heifer calves. Such calves from high-bred cows in cities and towns can frequently be bought cheaply, and the expense of raising them will not be great. This method of increasing the herd is cheaper than to buy mature cows, but, of course, is somewhat slower.

Preserve the old straw-stack as long as possible, instead of letting the stock tear it down and tramp it into manure in a short time. The manure is valuable of course, but more value can be derived from the stack by saving it and using the straw for bedding purposes as long as it lasts. W. F. PURDUE.

How Wisconsin Educates Farmers to Destroy a Plague

By Fred L. Holmes



Dean Russell

THROUGH milk tuberculosis is transmitted from cows to human beings. Probably 20 per cent. of city children under 16 who die of the disease contract it thus. New York City alone furnishes 300 children each year for this sacrifice. Bovine tuberculosis costs us \$23,000,000 annually in hogs and cattle. To eradicate the scourge would take years of effort and \$840,000,000, according to statistics compiled by Dr. N. H. Reynolds of Minnesota. What facts more terrible are needed to awaken a menaced people?

Science has furnished us with the simple tuberculin test almost unerring as a method of detection, yet twenty-one states actually ignore bovine tuberculosis. A score of others offer it feeble resistance. Insidiously the plague has gained foothold. Of the herds tested during the first year of one state's campaign 52 per cent. harbored the disease. In New York, in 1910, about 21 per cent. of the animals tested "reacted." That meant they had tuberculosis, and that after a desultory fight lasting years. The disease is increasing rapidly. The ratio in cattle trebled in four years (1903-1907), as shown by the post-mortem examinations by the United States Meat Inspection Service. Out of 400,000 cattle tested, in the fifteen years from 1893-1908 and reported to the Bureau of Animal Industry, 37,000, or 9.25 per cent., were tuberculous. This is an economic problem, but above all it is a health problem.

What is being done to eradicate the evil? Only half a dozen states are waging serious warfare. Pennsylvania, the pioneer crusader, has diminished the ratio considerably. Minnesota, in three years of militant fighting, has decreased the disease from 9.1 to 4.1 per cent. Wisconsin has lowered the infection from 17.7 per cent. in 1906 to 3.2 per cent. in 1911. Wisconsin is educating the farmer as to the economic loss, and the consumer as a matter of self-protection is attracting much attention. This year more cattle were tested in Wisconsin than in all other states combined.

"Test the Whole Herd"

A score of years ago two students of bacteriology returned to America from Germany. Doctor Koch had discovered tuberculin, hailed at first as a cure for consumption, but later found to be useful only as a test for the disease. These students brought tuberculin to America as a curiosity and thus introduced it in America. In 1893 Dr. Leonard Pearson gave it its first trial at the Pennsylvania State College, the beginning of the Keystone State's long and creditable campaign. Two months later Dr. H. L. Russell, now dean of the Wisconsin College of Agriculture, tested three cows at the state experiment station. All "reacted." "Now test the whole herd," said Dean W. A. Henry. All but two of the mature animals "reacted." The university veterinarian, after a physical examination of sixteen, pronounced two tuberculous and four suspicious.

"Kill all that have reacted," commanded the dean. Of ten pronounced sound by the veterinarian, all but one were infected. "Now kill the rest of the herd," came the dean's further order. There was no other way to establish beyond dispute the reliability of the tuberculin test and the untrustworthiness of the physical examination. All of the "non-reacting" animals proved healthy. The post-mortem was brutally convincing. The physical examination had failed woefully.

That was a score of years ago, but for fifteen years the Wisconsin dairymen gave it little attention. Meantime a state live-stock sanitary board was created and a law passed against bringing cattle in unless tuberculin tested. Wisconsin chose to work the problem out slowly. The state agricultural college was commander-in-chief in the attack. States like New York and Massachusetts tried to test all of their cattle and to slaughter all that "reacted." But public opinion failed to sustain the movement. These stringent laws were either modified or repealed. Dean Russell conceived a unique plan. He would appeal to the people.

"When we saw this lack of interest, we decided that something must be done to arouse them," declares Dean Russell. "An enemy in ambush is more to be feared than in the open." If tuberculosis worked with the rapidity of blackleg or hog-cholera, the people would be aroused. But because of the impossibility of recognizing tuberculosis, it is most dangerous.

Bulletins illustrating the tuberculosis question had been widely distributed, but the farmer would not test his herd, unless he felt sure the disease was present.

An educational campaign was decided upon. In 1905, legislators were invited to witness post-mortem examinations of "reacting" animals. Dissection showed apparently healthy cows to be "whited sepulchers." Appalled, the legislature increased the appropriation for demonstration work in every section of the state.

At farmers' institutes, county fairs, and the like, farmers witnessed public dissections. The interest became intense. Reacting cattle of farmers were slaughtered to make the lesson vivid. Diseased tissues were shown. The hideousness of the pestilence was exposed; the proof was irrefutable. A multitude of questions were answered. The demonstrators told how the disease is introduced and spread from one ani-

mal to another, and how detected by the tuberculin. What happened? In one county by the voluntary campaign the disease was practically exterminated. The number of cattle tested increased from 1,655 in 1905 to 9,718 in 1906, 15,815 in 1907, 40,993 in 1908, and 48,181 in 1909. Note the result. The percentage affected declined from 17.7 per cent. in 1906 to 4.3 per cent. in 1909.

Soon public opinion was educated in advance of the law, and the legislature of 1909 convened. Measures were immediately introduced for compulsory testing. But Doctor Russell remembered that it was drastic legislation, unsupported by public opinion, which had brought a reaction in New York and Massachusetts. So he still relied on the rising influence of public opinion.

"I presented the data of the experiment station to the legislature," continues Doctor Russell. "I showed that we must stop the purchase of tuberculous cattle from

lin-test law. That is not strange. The use of anti-toxin for diphtheria once suffered a similar attack. Censure aimed at tuberculin usually falls upon those who administer it. Blunders have occurred; incompetent men have got bad results. All these are fruits of ignorance. Yet post-mortem examinations in all states, according to Dr. A. D. Melvin, show the test is unerring in 98.39 per cent. of the cases tested.

General acquiescence in the tuberculin test and good progress in Wisconsin have been made possible by these public demonstrations. The three ways in which the disease is spread dawn on the average farmer.

First, the purchase of diseased animals.

Second, by direct contact with an infected animal.

Third, by feeding raw creamery skim-milk and whey.

Wisconsin is already eliminating the first two by prohibiting the bringing of tuberculous animals and by regulating sales within the state. Now Doctor Russell and the state experiment station are moving against the third and last source of contamination, following the lead of Iowa and Minnesota.

The Simplicity of the Tuberculin Test

A law is contemplated for the Pasteurization of all skim-milk, where infected herds are found, by heating it to 176 degrees Fahrenheit. Why all this precaution? Because a single infected feed may give the disease to hogs or calves. Whole neighborhoods of infected animals have been tainted by the distribution of infected milk. In two such neighborhoods 24 and 34 per cent. respectively of all cattle tested were found to react. The swine in the neighborhood were also infected. What a toll of loss resulting from infraction of health rules. The application of the tuberculin test is simple. If a tuberculous cow has half a teaspoonful of tuberculin injected beneath the skin, a temperature of from three to six degrees Fahrenheit above normal will result. A healthy cow will show no such fever. Tuberculin is made from the disease-germs grown in beef-broth containing glycerin. After the growth is completed, the broth and its germs are boiled, killing the bacteria. The juices of the dead cells are evaporated to one tenth of its original amount, preserved and diluted when used. Tuberculin contains no living germs. It has no ill effect on healthy cattle, nor does it injure the tuberculous ones. The expense of testing is trifling. In Wisconsin the tests have cost less than \$4 a herd. All condemned animals are paid for by the state at two thirds of their appraised valuation, not exceeding \$55, however. They are slaughtered in packing-houses under federal inspection. If the meat is not infected, it is sold to butchers.

The carcasses passing inspection bring the state from \$17 to \$20. Not enough money is realized from badly infected animals to pay their car-fare. The hide brings about \$4, and the carcass is sold for forty cents, for tankage. In 1909, when 2,170, or 4.3 per cent., of the animals tested were condemned, it cost Wisconsin \$71,000 to reimburse the owners, of which the state got back about \$18,000.

In the older sections of the country the menace is even greater. Since January, 1907, of the cattle tested

in Pennsylvania, 6,173, or over 14 per cent., "reacted" and were appraised and destroyed. What must be the conditions in the states that have no such laws and the score of other states that make little pretense of enforcement? In Denmark, the great dairy country of Europe, where 40 per cent. of the cattle were once involved, a fourteen years' battle has reduced the plague to 9.8 per cent.

The contest should not be waged by the states alone, but citizens should aid. Twenty Wisconsin cities prohibit the sale of milk from untested cows, Chicago does likewise. A general

[CONCLUDED ON PAGE 14]



The lungs of a pig, which show how wide-spread the infection may become. These lungs and the tonsils shown below came from the same pig

infected herds in the state. A line had been drawn around the state. Now we must stamp out the disease within the state. One herd of fifty-five animals were sold at a public auction to thirteen purchasers. A purchaser found by the tuberculin test that his infected animals were those purchased at the auction. Tests showed that thirty-three head distributed among twelve of the original thirteen purchasers were diseased. Here was a whole community exposed to the scourge from a single sale.

Of 1,562 herds tested by the experiment station in 1907 and 1908, 363 were found more or less infected. Of these 363 herds 263 seemed to have been infected through the purchase of diseased animals.

The Test is a Money-Maker

The money value of this campaign is shown by the fact that tuberculin-tested cattle bring a higher price than untested stock. One man came here from California a few days ago to buy 100 head of our tested cows. Dairymen of other states are looking to Wisconsin. "They have found that to build a herd on untested stock is to build it on a bank of sand."

The legislature took the second step in advance by a law effective December 1, 1910, providing that no dairy or breeding animal may be sold except for slaughter or temporary feeding without a clean bill of health, by tuberculin test. Since that law took effect more has been accomplished in Wisconsin than in five years before.

The work became too much for the licensed veterinarians. The state had passed a law permitting other persons who could pass the examination to give the test. During recent months nearly 500 veterinarians and 600 students have been at work almost continuously, and the demand is for more.

In 1911 the available supply of tuberculin in the United States was cornered by the Wisconsin demand. The 30,000 doses monthly to be furnished free by the federal government was insufficient to meet the voluntary demands of dairymen. The state purchased all that was obtainable, but it wasn't sufficient. Finally the agricultural college established a tuberculin factory. This partially meets the demand.

Had the supply of tuberculin been adequate, one third of the one million five hundred thousand dairy cows in Wisconsin would have been tested during 1911.

Even in Wisconsin there is opposition to the tubercu-



The tonsils of a pig fed on milk and bran containing tubercle bacilli. Note ulcers

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Live Stock and Dairy

Scrub versus Good Cattle in the Feed-Lot

THIS at first looks like an easy question to answer, but it is not; that is, from a feeder's viewpoint. First, the term scrub steer is vague and covers a large class of cattle. What are known in stock-yards parlance as "Knot Heads" are really scrub steers, and these, being practically out of the question as feeders, need not be considered. This brings us down to what is known as common to plain steers, and the question as to whether common or well-bred steers pay the best in the feed-lot is an open one, greatly depending on whether the plain steers are bought as such and the well-bred ones are really well bred. It is more often possible to buy the common cattle at a bargain below what they are actually worth than it is to buy the others, as the ratio is at least six to one. Every cattleman knows that in any bunch of cattle there is always a top. If the prospective feeder picks his load out of common cattle, he certainly has a top of a kind and yet may have very inferior cattle.

A little flesh at this time covers a multitude of sins. Anyone who reads any of our agricultural papers knows how they keep on advocating the handling of some good, well-bred stock. No one can put up any argument against this, for we are all aware that the well-bred, broad-backed steer carries the meat where the high-priced meat ought to be. And yet there's just as much money made feeding plain to common cattle, if they are bought as such, as there is in feeding well-bred cattle. They may not put all their gain on the right place, and it may not be high-priced, but the public now is demanding cheap meat, and someone must furnish it, and, as three fourths of all the stock and feeder cattle are plain to common, it is simply impossible for everyone to feed good cattle. As far as the direct profit goes in feeding, there is always more or less speculation, and a feeder is just as liable to get a two-dollar advance on the plain as on the good. It is one of the queer things in feeding that if you buy and feed one hundred head of common steers, it is surprising how many decent cattle you get, and if you buy one hundred good ones, it is also a surprise how many tail-ends you get. In other words, if both classes of cattle are thin when bought, it is not everyone who can tell which really are the good feeders.

Anyone reading this would naturally think I am an advocate of the common steer. Far from it. I am simply looking at it from a feeder's point of view. If a breeder is fool enough to raise common cattle, from common bulls, and sell them at common prices, that is his loss, and if I can buy the thin frame of a three-year-old steer which up to that age has been produced at a loss, that's my profit, if I can make it.

What, then, is the benefit in feeding well-bred cattle?

First: They make, as a rule, the largest gain; they make gain where it counts most.

Second: The direct profits from cattle-feeding come from the advance in dollars over the cost and after the cattle have been fed three to five months, and, if the market goes wrong, it is often possible to carry good cattle longer and come out O. K., when the common cattle would eat their heads off.

Third: There is the wonderful effect that handling good cattle has on the man himself, which, although it cannot be measured up in dollars and cents, generally leads to that. No man can make a success of his business who does not love it above the dollars and cents, and when a man likes and handles good cattle, he takes an honest pride in them, and this pride leads up to other things, for in handling good cattle he will meet and mix with the better class of farmers and feeders, and he will naturally broaden, and his business will broaden with him. If anyone doubts this, let him look around in his own community, not at the get-rich-quick kind, but at the few really successful farmers, the kind who take a broader look ahead and who try to keep up the fertility of their land.

W. S. A. SMITH.

Winter Care of Work-Horses

THE horse is the one animal we all depend upon for our farm work. No matter what special line of farming we pursue, it is the horse that has to do the bulk of draft work, and each of us must have a portion of our capital invested in horseflesh, which deteriorates in value yearly. Perhaps a few men are shrewd enough to so buy and sell horses as to keep their capital from diminishing, but if they do they simply are pushing their portion of the inevitable loss in the value of horseflesh on a less wise individual. The useful life of the ordinary work-horse is about eleven or twelve years. Horses which were well cared for up through colthood and through their ordinary working years are able to do more work and to work a longer term of years than horses that are poorly handled.

I well remember attending a large ranch auction here in Dakota a few years ago where there were several very old teams sold. These old well-kept teams looked better and could do more work than many younger teams, and they had known but the one master and the one home. They were foaled, grown, broken and worked to old age on the one ranch. They were all half brothers and sisters and almost any two of the twenty-odd old work-horses would make a well-matched team. They were half Clydes.

To my personal knowledge these horses had the same care winter after winter. I am fully convinced that it was the good winter care they received which so materially added to their strength.

There was an abundance of well-cured alfalfa-hay on this ranch. Consequently the main rough winter feed of the work-horses, and colts too for that matter, consisted of alfalfa.

The work-teams were in the same barn and in the same stalls for years. Never a night during the winter was a single work-horse allowed to be anywhere except in his own well-bedded stall.

The first thing in the morning—about five-thirty—each horse was fed six to eight ears of good, sound corn, then a feed of alfalfa-hay—as much as he would clean up in about two hours. Then the barn was cleaned.

The old ranchman said to me one morning, "A clean barn helps to fatten horses as much as the feed you feed them." About eight o'clock the horses were turned into a high board corral and allowed to drink from a tank where there was no ice, because of the use of a heater. There was a long rack in the corral which had straw or shredded fodder in it and from which the horses could eat all day if the weather was favorable. If the day was stormy, straw or shredded fodder was put in the barn mangers, and the live stock came in for the day. They were watered again about four in the afternoon. But if the weather was good, they were left in the corral. At noon they always got a light feed—about four quarts, each—of oats. This feed was put in troughs such as are used in steer-feeding yards. About four-thirty o'clock their stalls were bedded down and their evening feed of alfalfa-hay put in, and six to eight ears of corn. Then the horses were called in, and the barn was closed for the night. Lots of work, yes, but in the spring those horses were fat and strong and vigorous.

We cannot all follow this old rancher's methods, but we can get his principles, which are these: Comfortable, clean, well-bedded quarters, exercise when it is not storming, water that is not ice water, regularity in feeding, and good, sound, clean feed. Now, let's look at the feeding ration a bit.

It was alfalfa-hay and corn morning and night, which is a balanced ration in itself, and oats and either straw or shredded fodder for the other feed, which is also a fairly well-balanced ration. The feeds were all light feeds. The horses were big fellows, but with no work they gained in flesh all through the winter, and when spring came, they had the weight to put in the collar. Their flesh was hard, for it was put on slowly and with ample exercise. It stayed by the horses. Fat put on by a short period of high grain feeding will never do this. PAUL H. BROWN.



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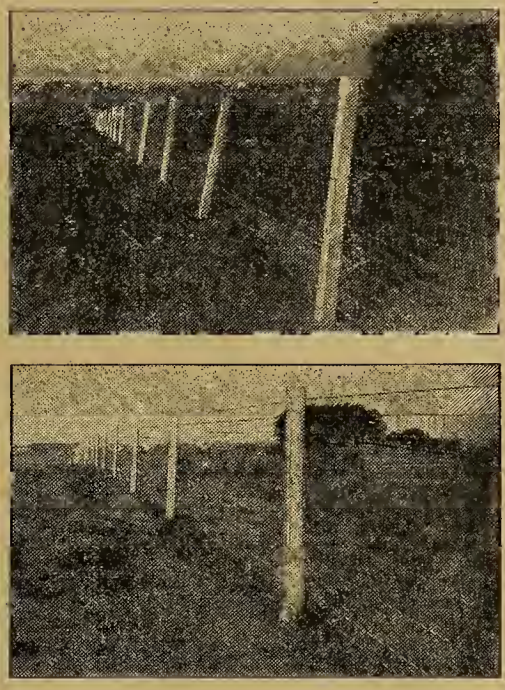
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Farm Notes

Prairie-State Fences

THE question of fencing in the prairie states is largely an unsolved problem. Probably there are few states in the Union where a solution of the post part of the fence problem is more needed than here in the states west of the Mississippi, and especially the states west of the Missouri. In the Dakotas, Nebraska, Kansas, Oklahoma and Texas there is very little native timber, and only a small per cent. of what timber there is can be considered as post-material. Red elm has been used some, but its life as a post is only about one year. Ash, cottonwood and some of the other comparatively soft woods have a life of only from two to four years. Black walnut, locust and hickory are all used some, but their life is only about eight or ten years. White oak has about the same lasting qualities.

Of the cultivated timbers, osage orange is the most popular as a post-timber. This is a slow-growing wood, but is very hard, and the heart wood seems almost proof against the attacks of the various fungi. Posts have been observed which have been in the ground for twenty years, and only the sap wood has decayed away. The greatest objection to these posts is their scarcity and the trouble they give in attaching the wire. They are so hard that it is nearly impossible to penetrate them with staples, and when the staples are driven the posts will soon season check at the point where the staple has entered and permit the latter to drop out.



The best fastener to hold the wire to these posts is a small wire wrapped around both post and line wire.

Some men are experimenting with catalpas for fence-posts. They are quick-growing trees and make fair posts at the end of fifteen years and have a life of from ten to twelve years. When a grove has been cut, it is allowed to grow again, then the saplings are trimmed so that only one grows from each stump. Those who have tried them say they can make a profit on land valued at \$100 per acre by raising catalpas on it.

Cement posts are being used considerably of late. These posts cost from twenty-three to sixty-five cents each, depending on the size of the post, the kind of reinforcing, the cost of labor, and material. These posts are commonly made are not so strong as the average wood post, but do very well for field and pasture fences. Because of the sharp corners on these posts, the stock, especially horses, seem to enjoy rubbing on them more than on round posts. For this reason it is well to put the posts on the opposite side of the fence from where the horses run. The upper photo shows a fence in which thirteen out of sixteen posts were broken by the horses, while the lower photo shows a line of the same posts with cattle on both sides and not a post broken.

At one time red-cedar posts were used a great deal, but because of the increased cost these posts are being replaced with white cedar, a post material which is not proving very durable.

Although barbed wire has ruined sufficient stock in the prairie states to pay for enough woven wire to make all the fences in that section of the country, it is still the standby as a fence-material. It is not only the fence for the poor, but it is a fence for the rich, and both use it.

Stone walls, rails and board fences are being replaced by woven wire. The latter is fully as durable, far more sightly and much cheaper. In buying this fence, however, farmers are making a great mistake in getting too light wires. The heavier wires are much more durable and cost but a trifle more. No. 9 line wire should be the minimum size, and it would be better if all the cross-wires were this size.

Mr. H. E. Horton, a noted fence-man from Chicago, is quoted, pertaining to a fence



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Fencing	30c	45c
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Total	53c	68c

The heavier fence in place costs twenty-eight per cent. more, while its life is several hundred per cent. more. L. W. CHASE.

A Farm Earned by Savings

SOME ten years ago I thought to myself: "I am going to be old some day, and I haven't been saving any money. I am thirty-five," I said to myself, "and I had better be saving some of this 'come easy, go easy, money.'"

Then, I thought, "how shall I save it? Put it in the bank and maybe the bank will 'bust.' Or, maybe it's best to put in a safety deposit vault, but even such places are robbed."

Well, I settled the question by putting the money in one of Chicago's best savings banks, until I had about two hundred dollars. Then I read the Chicago papers and watched for an advertisement (inserted by the owner himself) for a farm of about forty acres at a price I could afford to pay. It read something like this:

For sale: Michigan—Forty-acre farm, eight-room house, forty-by-thirty barn, apple-orchard and some other small fruits—good well of water, spring, heavy clay soil—hard-maple trees—\$2,000. Half cash—balance on time.

I wrote the man, and offered him two hundred dollars down, one hundred and fifty dollars every three months, and interest on the balance until paid for. I had a position in Chicago contracted by the year at fifteen hundred dollars. I cut down on every conceivable expense that was an unnecessary one, and saved my money to meet my notes as they came due. I paid it all but nine hundred dollars, and I borrowed that from the bank in town near the farm at six per cent. interest, and paid for my farm.

Now my rental is fifty-four dollars a year. I have owned the place about six years—and have spent over one thousand dollars improving it. It is worth to-day four thousand dollars. I would sell it for cash only. Have I made money? If not, I have saved something worth while. So many people say: "Oh, I can't save anything!" Of course they can't. I couldn't until I put myself in debt for something. I couldn't keep my money in the bank when I did not have the farm to pay for. W. R. PAIGE.

Scientific farming makes a scientist out of the farmer.

On the farm opportunity knocks about once every hour.

Keeping on the fence too much disqualifies one for taking a stand.

The farmer shouldn't have to haul bumper crops over bumping roads.

Some farms are in the wrong hands, and some men are on the wrong farms.

The Little Red Schoolhouse

WE ARE used to hearing of the great men that "The Little Red Schoolhouse" produced. The fact is, the Little Red Schoolhouse produced little but tuberculosis, misery and a disgust for learning. The rooms were ill-ventilated, the teachers unskilled, the discipline tyrannical and the methods stupid. Nothing was taught but the simple branches, and these were taught badly. Some of the examination papers of 1846 were found in the attic of the high-school building at Springfield, Massachusetts, and the principals gave the questions to their classes, after making every allowance for difference of age, length of school year, local conditions, and so on.

The results, as cautiously summed up by Principal Riley, seem to indicate that our children are not only better spellers, but that they reason better in arithmetic and are more accurate in ciphering than children of the same age half a century ago. This is notwithstanding the fact that our children have many more branches to engage their time and attention.

Of course, it was better that "readin', 'ritin' and 'rithmetic" should be gotten even in the poorest little schoolhouse than not gotten at all. But these great men grew great in spite of the schoolhouse. How, then, were these men produced? Why, by the normal home, which is infinitely better than the most normal school.

In the old times the farmer lived hard, but he had the advantage of free land or at least of cheap land, and he was fairly prosperous. He and his family ground their own corn, baked their own bread, cured their own meat, made their own houses, shod their own horses, and did nearly everything else for themselves.

Such a home was a "School of Arts and Crafts," a "Manual-Training School" that beat all our artificial institutions for practical instruction, and turned out men.

Of course, our farmers still do many of those things, but they mostly buy their flour and bakers' bread, buy cured and canned meats and vegetables, buy shingles and lumber and barbed-wire fencing, and go to the blacksmith.

The city boy has a better public school; but he never chops wood or builds a fire; he lights a gas-range or turns on the steam heat. Instead of tending cattle, he opens a can of embalmed beef. He does not even make his own toys, and as for carpentering or house-building, he looks upon those simply as trades, and so misses the true education.

The remedy? Get the people back to the land, or the land back to the people. Bring the country and the city together; wipe out those blots on the landscape, the vast stretches of unused, high-priced lands, that shut out the city lad from the varied and wholesome occupations of the country, and that separate the country lad from the advantages, education and amusements of the city, for which he longs.

City and country, we are one people, and when we get together, we shall find that natural conditions bring complete education. BOLTON HALL.

Jealousy is the weevil that eats the germ out of the grain of joy.

The land-boomer may not study his Bible very much, but he surely believes in paradise.

The farmer must be in love with his calling himself if he is to inspire his children to stay on the farm.

Coöperation

A Little Success in Wisconsin

IT IS not an easy task to write a review in a short article of the work done in five years by a busy lot of men like the members of the Oak Grove Local Union. A thorough history of it all would fill a large book. An account of the picnics and entertainments alone would make a nice little volume. The Oak Grove boys are never satisfied unless there's something doing—that is their style.

But, prior to organizing, their history is almost a blank. Before the American Society of Equity extended its helping hand and enlightening influence, the stock business especially was in a neglected condition. Interest in business was knocked clean out of the farmers. They were ravaged by buyers who took advantage of their ignorance and paid what they pleased and allowed what weight they pleased. Sometimes they bought in advance, and if the stock gained in the farmer's pasture, it was the buyer's gain, and if any of it died, it was the farmer's loss.

It was so with the grain. You dragged your loads to market, and they paid what they pleased and took as much shrinkage as they pleased. When you sold, they told you what you would get, and when you bought, they told you what you had to pay. In short, you had no voice in business.

It was not so to continue forever. On June 26, 1906, we learned about the American Society of Equity. The people, however, had been deceived so often that they viewed with mistrust the organizer and organization. Many said, "the farmers won't stick." A few expressed the opinion

that someone was trying to make some money from the farmers.

The question arose, who will organize? People do not jump at conclusions in Oak Grove. They take things step by step. But finally, after considerable discussion, fifteen men were found who were willing to elect officers and organize themselves into a permanent local union of The American Society of Equity.

Shipping the Stock

After the preliminaries of organizing were settled and the local put on a business basis, coöperative stock-shipping was the first work actively taken up. This had been done some in an unsystematic way before organizing. We have a stock committee that represents, as nearly as possible, every part of the local. Reports of stock to be shipped are sent in to the head of this committee, whose business it is to see that stock is in good condition when landed at the local stock-yard and that stock is properly disposed of at the union stock-yard at South St. Paul. The shipper gets his time and expenses paid. The stock business has materially increased under this system of handling it. The buyers competed hotly for a while, and one said, "I've got that ring out there pretty near busted now." But he didn't know.

After the stock business was under control, the boys began to figure the grain-dealer's profits, with the result that the Equity Exchange of Prescott was built. Though the exchange originated in Oak Grove, considering the great competition, it could not have succeeded without the coöperation of the Clifton and Diamond Bluff locals. And right here is a practical instance of the force of united effort.

And Grain, Too!

One buyer said the elevator wouldn't last through the first winter. Another declared that he would "bust" it in three years. All such predictions have come from false prophets. Now they are saying "the farmers are going too far."

One reason why Oak Grove is a live local is because of the hard knocks the members received in early days. All remember that meeting held in Prescott when planks with ice on them were used for seats. I can feel them yet. I remember the speech, too. It was on supply and demand, and that's what brought those planks for our use.

The meetings which are held twice each month are better attended in winter than in summer. The reasons for this are obvious. There is more time and energy which is not otherwise utilized and ought to be applied to improve social and business conditions.

A Study of Politics

An important phase of our activities is the study and discussion of political questions and candidates for political offices. It used to be the case, that when farmers met and talked politics, the meeting ended in an angry argument and sometimes led to a demonstration with fists. We were Democrats and Republicans, and we couldn't help it. But, thanks to coöperation, it is different now. We get together, and in our simple way we discuss great state and national issues and the candidates, with the result that when election comes we are of one mind. At the election last year, we lost but three or four votes in the township on important state candidates and I have reasons to believe those were mistakes. Farmers all over this country should thus assert their power, for it is the plain people that are the salt of America. A little thought and application will bring about the work of coöperation and accomplish great things.

An important factor in our education along these lines is our magazines. We owe much of our success to them. They are indispensable. We cannot grow without them, for they keep our several departments in touch with each other. Let us read and think then; let us work and press forward with never a thought of retreat, and the victory is ours. GEORGE F. WOLF.

Convenient Grain-Box

TAKE a dry - goods box, about fifteen inches deep, eighteen inches wide and two and a half feet long. Saw a rectangular hole in one end large enough to receive the grain, and hinge a cover (A) over it. Next, saw a hole about three by four inches in the front (B), making the bottom cut slightly rounded. Cut a piece of tin about three and one-half inches wide for a chute (C), curve it to fit the cut at the bottom of B, and nail in place. Nail two small strips of wood (D), with a groove in the edge of each, to the box, so that a door (E) will slide up and down easily.

Make the door of a thin piece of board, and round it at the bottom, so as to fit snugly on the chute. By raising the door, the grain will run out into a measure. Screw the box to the wall in the barn in a convenient place about three feet from the floor. A. B. BOGERT.

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Overland

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Equipped with Self-starter only \$20 extra

THAT the farmer needs a car in his business is no longer an argument. It enables him to get more out of an hour's work than ever before. It makes everything on or around the farm move faster. So, if more work can be accomplished in any given time, more clear profit is bound to result.

But the farmer need not pay more for an automobile than his work requires. It should be bought, first of all, as a utility—not as an ornament or vehicle of pure pleasure. It should be bought to work for him—not to amuse him as, for instance, a piano does. After the work is done you can have all the fun in the world with it.

The Overland (Model 59) at \$900 is absolutely all anyone would want in a car. It will make your whole family happy. Compare it with any \$1250 car on the market, and you'll find but little difference. You know that most of the \$1250 cars are of the 30-horsepower type. This \$900 car has a 30-horsepower motor. Seats five people comfortably. It is big and roomy. Has a staunch pressed steel frame, selective transmission with F & S annular bearings—the best made. Has strength, power and speed—more than you will ever care to use. The body design and finish is simple, graceful and beautiful. Upholstery is of good leather, hand stuffed

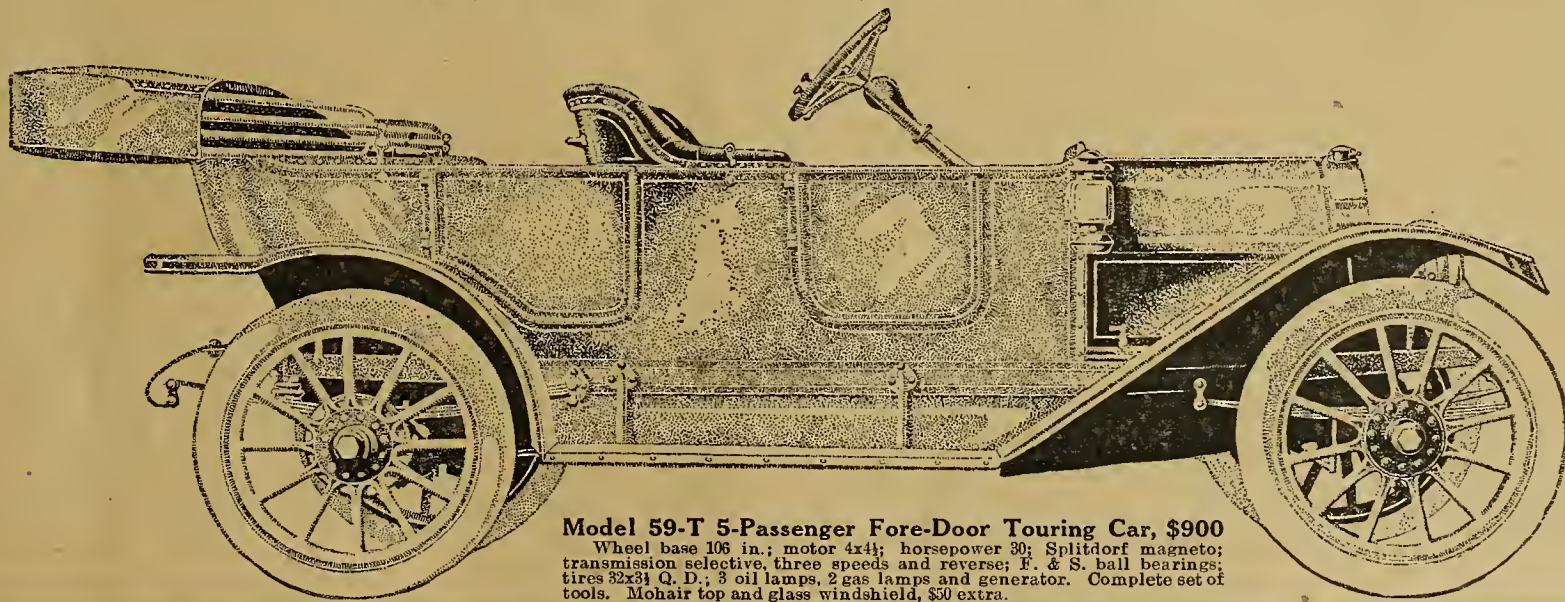
with fine hair. In every respect it is a thoroughly high-grade machine.

If you wish we will equip the car with a self-starter for only \$20 additional. This starter is the most practical made. On continuous tests, under all conditions it will crank a car ninety-nine times out of a hundred. It is simple and safe. All you have to do is to pull a little lever and your motor spins. Use the same gas tank as you do for your headlights.

And it is a fact that no other maker in the business can build this car and sell it at this price without losing money. This is due to our enormous manufacturing facilities—the largest in the world. The manufacturer who turns out but 5,000 cars must have greater production costs, for each car, than we who make 25,000 cars.

We have published a very interesting and simply written book which explains why the largest automobile factory in the world can give more car for less money than the small factory. Write for a copy. It will show you how to save money when you buy a car. This also explains in detail the remarkable value of this \$900 touring car and illustrates with handsomely colored plates the complete 1912 line. Write and ask for copy J-31.

The Willys-Overland Company, Toledo, Ohio



Model 59-T 5-Passenger Fore-Door Touring Car, \$900
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Garden and Orchard

Cedar-Rust—What is It?

EVER since I was a boy I have seen those cedar-apples, so called, and I always felt that they belonged to the cedar. In fact, for some time I believed they were the seeds of the red cedar, but I have found that this is not true.

After a rain, they send out long strings of soft substance, and as soon as they dry up they somewhat resemble themselves again, though I am not sure that they ever send out the stringy substance any more. They get hard, dry up, and finally drop off.

After the boys at the experiment station informed me that these were the direct cause of one of the most prominent rusts on the apple and the apple-leaf, I examined them more carefully, and I found them on the same cedar-boughs from the size of a pin-head up to the mature size, which is almost as large as a large black walnut.

This blossoming out after the rain, we are told, is their way of producing the spores, which, when dry, float in the air and become fastened on the apple leaves.

OMER R. ABRAHAM.

Dahlia Money

MRS. W. F. AMES of South Albany, Vermont, always a lover of flowers, first raised dahlias for the pleasure of it. She soon had such an attractive collection that people wished to buy tubers of her. The business gradually grew until it became quite a profitable proposition. Her father has all of the work of caring for her field of dahlias, small fruit and vegetable garden, except what she could do herself; he also drives for her when she goes to take orders,

or deliver goods. Each day he reads the daily paper and keeps better posted on current events than the younger members of the family. Years ago Mr. Ames was in very poor health. The doctors feared tuberculosis, and ordered him outdoors as much as possible. He is now well, busy as a bee from morning until night, and attributes his present good health largely to his work among the flowers. This year Mrs. Ames is planning to enlarge the business, and her husband will assist in the work. Heretofore, he has devoted himself to general farming, but he believes dahlias pay better than corn and potatoes, so is preparing to make some changes in his farming operations.

This past season was so dry that the plants made little growth until late, and did not bloom. As they were planted without labels, she can sell no tubers until another year, not being sure of her varieties. All tubers will have to be wintered. However, if next season proves good, she will have a larger crop than usual.

MRS. J. W. MATHIE.

Pay as you go, but don't go where the pay is too extravagant.

The foolishness of other people is a great subject to philosophize about.

The Screech-Owl

WHY any man would kill such a valuable bird as this little owl is past our understanding. If there is any person in this day and generation that objects to its tremulous "who-o-o-o" call at night, they had better go to the old, ignorant and superstitious countries of Europe, for they do not belong in this enlightened land.

The owl, like the mice which constitute a good share of its food, is nocturnal in its habits; it visits the town as well as the farmstead for these rodents. It comes about our dwellings for its English sparrow "pot-



pie," for the owl is one of the natural enemies from which this sparrow cannot well escape.

The biological survey in its report on this owl has said: "As nearly three fourths of the owl's food consists of injurious mammals and insects, and only about one seventh of birds (a large proportion of which are destructive English sparrows), there is no question that this little owl should be carefully protected."

Let us pass a law protecting the screech-owl from the guns of fool men and boys who are continually killing them.

H. W. WEISGERBER.

If the fool-killer had always happened around just at the right time, there wouldn't be many of us left to tell the story.

Western Potato-Scab

Why Won't the Preventives Used in Colorado Work in the Eastern States?

THE subject of potato-scab probably comes up more often than any trouble with which the potato-grower has to do. There are many heated discussions along this line, which, for the most part, result from a lack of knowledge of the whole problem.

In looking over the history of the work on potato-scab in this country, we find that reliable data is decidedly meager. It seems that Professor Roland Thaxter, then of the Connecticut State Experiment Station at New Haven, found potato-scab that was caused by a vegetable organism which he isolated and found to be the fungus *Oospora scabies*. Clean potatoes were inoculated with the fungus and a typical scab produced. This was good evidence that potato-scab, which had been known for a long time, was caused from this fungus. A further study of this fungus brought the conclusion that it could be eliminated by the treatment of the seed-tubers with some liquid fungicide, such as corrosive sublimate in water, or formalin. Other writers and investigators have taken up the subject and, so far as we can find, the most of the work that was done along this line after Thaxter's discovery was to copy Thaxter's work.

Rolfs and Paddock, of the Colorado Experiment Station, found that another fungus, known as *Rhizoctonia*, produced typical potato-scab in Colorado fields. If it were

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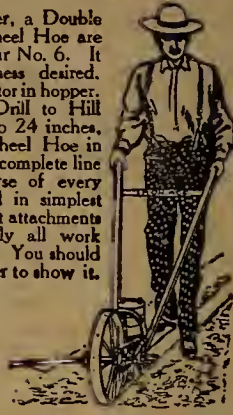
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All genuine "Cutaways" are intense cultivators and will increase your crops 25 to 50 per cent. Our Double Action "Cutaway" Harrow is a wonderful invention—can be used in field or orchard. Perfect center draft. Drawn by two medium horses will move the earth twice on every trip. We can prove it. "Intensive Cultivation," our new catalogue is Free. Send for it today.

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1912 SEED ANNUAL
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true that Oospora scabies were the only source of scabby potatoes, the remedies suggested by many of our experiment stations of treating potatoes, to clean the seed and plant in clean ground, would guarantee potatoes without scab. However, since we know that at least one other species of fungus produces scab, and we also know that that fungus is native in our raw soils as well as in our cultivated soils, we do not believe that it is possible to eliminate scab for a certainty with any disinfecting treatment.

In the past ten years, in the potato investigations that have been carried on by the Colorado Experiment Station, treatment for scab has been tried nearly every year, and all the evidence, so far gained, is contrary to the conclusions reached by most of our investigators. We have planted scabby seed without treatment and produced perfectly clean tubers. We have planted clean tubers, in apparently clean ground, without treatment, and produced scabby potatoes. We have planted clean, treated potatoes that have produced scabby potatoes. In fact, we are never certain under any conditions whether we are to produce potatoes free from scab or not. Our scientific friends in Germany claim that there are many fungi which may produce scab, and we are more or less inclined to think that they are right. The Colorado growers have, however, come to the following practice, which we believe is not only cheap and easy, but well worth while, not only as a disinfectant, but for the general effect on the seed-tubers. This is what is known as the "greening" of seed.

Every housewife knows that if potatoes are left exposed to sunlight they soon become green, the skin not only being affected,



Why not plan for a bed of flowers?

but the tissue, also, to considerable depth from the surface. An examination of these potatoes shows the presence of green coloring bodies and also of an alkaloid, which the chemists term "Solanine." Potatoes in this condition are not only distasteful, but are also made more or less poisonous by the presence of this alkaloid. This greening, however, is a natural process and one that toughens the tissue of the tuber and gives it more of the character of a woody stem than where left in the dark.

The process followed by our growers in the Greeley district is to sort over the potatoes and spread the seed on the ground in the bottom of their dugouts as early in spring as the cellars can be left open with safety. These seed should not be spread more than one foot thick over the bottom of the cellar. Where these cellars are not available, an open shed with ground floor does as well. The greening process goes on rapidly, and the potatoes are forked over several times to expose all parts of them uniformly to the light, and also to prevent the starting of the sprouts. It is sometimes questioned if exposure to the warm air in this way will not start the sprouts more readily than in the cool cellar. The fact remains that where potatoes are exposed to the light and frequently moved the sprouts will develop much more slowly than in a good storage cellar. Those that do start, instead of being long and pale, will be short and so tough that they are frequently uninjured by cutting and planting.

We do not claim that this system kills all bacteria and fungi in potatoes, although exposure to light does eliminate many of our destructive soil fungi. It appears, however, that this system does make the tuber more resistant to rots and produces a better stand than any other treatment that has been tried. In the higher altitudes of Colorado, the growers frequently expose their seed-potatoes in this way in fall when the digging is being done. In the warmer districts, however, exposure to the direct rays of the sun is liable to scald the tubers so as to spoil them. We have not tried this system in the East, but can see no reason why it should not be feasible there as in Colorado.

E. R. BENNETT.

Education along agricultural lines will give a man a bigger mind and also a bigger crop.

Nitrogen is good for the soil; so is potash, and lime and all the rest; but the best of all is a thorough, common-sense man to apply them and make them available.

Reaching the Consumer

SPEAKING of "Producer-to-Consumer" methods, the time has come when most of the primitive methods are being worked to death.

Time was, when a farmer could dispose of a load of fresh vegetables, fruits, butter, eggs, honey, etc., from house to house, at good prices; but that, in my neighborhood, has been overdone.

Also, consumers have been hoodwinked to such an extent that they are suspicious, and so are difficult to approach.

For that reason, and because of competition, only those farmers quite near a town, and with whom the people are more or less familiar, can expect to make a success of house-to-house peddling in the future.

Again, many, perhaps all, large towns are now served by city wagons that are supplied with all conveniences and are actual "green-grocery stores" on wheels.

They effectually bar the farmer.

Before our stuff is ready, they serve their routes with southern produce. By that means they hold their customers and serve them daily, winter and summer.

That is beyond the farmer, but the next best thing is to sell direct to those who serve those routes, and divide the regular middle-man's profits.

Most of the men who run those green-grocery routes will buy any amount of first-class produce.

I know men who now haul, or ship, their produce twenty to forty miles, in order to sell to the men who serve these daily routes.

They clear more money than by the old method of selling to the nearest dealers.

It's natural: the dealer must have his profit; his commission man, or agent, must



From Louisiana

Dollars Take The Place of Stumps

\$750 extra crop-profits every year on 40 acres and double value of land when stumps are pulled out. Let us prove it. Write now for new, fine, free book showing testimony of Hercules Stump-Puller owners. See actual photos of 3-foot stumps pulled in less than 5 minutes. All steel, means unbreakable strength—triple power, means terrific pull. More pull than a tractor. The

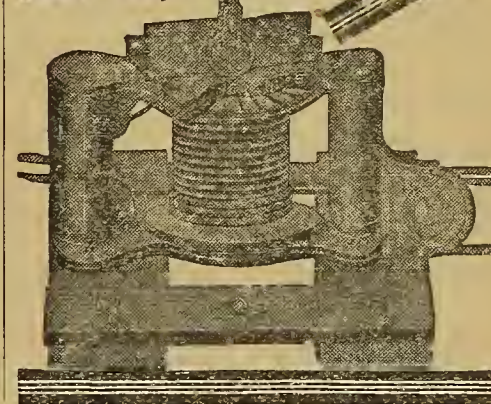
HERCULES All-Steel Triple Power Stump Puller

Sold on 30 days' free trial—all broken castings replaced free any time within 3 years. Double safety ratchets insure safety of men and team. Careful machining and turning of parts means long life and light draft. 60% lighter in weight and 400% stronger than any cast iron or "semi-steel" puller made. Get the genuine Hercules—save money—prevent danger. Can be used single, double or triple power.

Book Free and Special Proposition

Read astounding profit-facts and figures in free book. See many letters and photographs. Read about best crops to plant in virgin land where stumps stood. Read how others do contract stump-pulling for neighbors or rent machine at a profit. Then note special low introductory price to first 5,000 buyers in different localities. Mail coupon or postal right now or take down name and address.

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Clean and Grade Your Grain FREE!

Use 30 days, free, my 1912 Chatham Mill. No freight to pay. No money down. Clean and grade all your grain. Then take your time in paying me my low price, or send mill back at my expense.

Chatham Mill actually grades and cleans 75 seed mixtures—Oats, Wheat, Corn, Barley, Flax, Clover, Timothy, etc. Takes Oats from Wheat, any mixture from Flax, Buckhorn from Clover. Sorts Corn for edge-drop planter. Takes out all dirt, dust, chaff and weed-seed from any grain. Handles 80 bushels per hour. Hand or gas power. The outfit I loan free includes: 1912 Chatham Mill, Bagger, Power Attachment, Corn Grading Attachment and Instruction Book.

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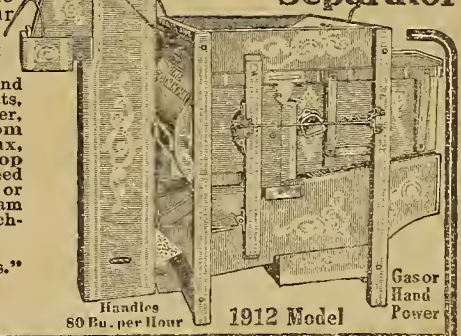
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CHATHAM
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Handles 80 Bu. per hour 1912 Model Gas or Hand Power

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When several fertilizer companies decide to extend their business into new sections, price cutting is apt to occur. Farmers are tempted by these reductions to buy even lower grade goods than the average. But the lower the grade, the less plant food one gets for a dollar.

Ask for one per cent. increase of Potash in place of each dollar per ton reduction. Instead of a price cut of three or four dollars you will get 25 or 33 per cent. more plant food for the same money.

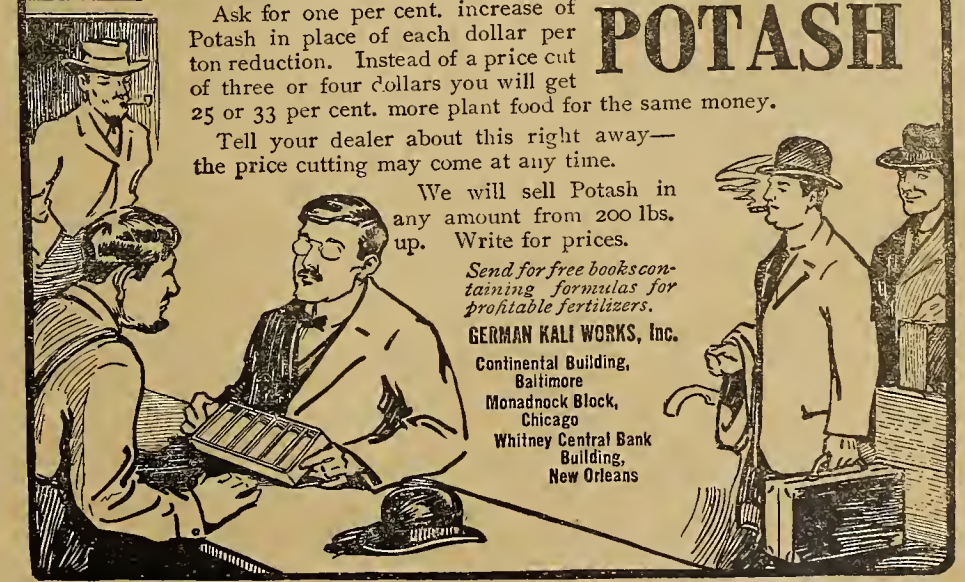
Tell your dealer about this right away—the price cutting may come at any time.

We will sell Potash in any amount from 200 lbs. up. Write for prices.

Send for free books containing formulas for profitable fertilizers.

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POTASH





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The Modern Wall Lining

Is Cold-Proof and Damp-Proof

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Keeps your rooms warm—saves on coal bills. Won't warp, peel or sag.

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4301 Lyndale Ave. N., Minneapolis, Minn.

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Here's the easiest, quickest money you ever heard of. Just send name and address—we will ship—express prepaid—Sweetest Big Outfit of Samples and Color Plates, showing over 100 correct and latest styles in Men's Made-to-Measure Clothing; special offer of a suit without cost. We back you to win, no money or experience necessary.

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Appeals to every thinking man. Suits and Top Coats, \$3.50 up; Pants, \$2.50 up. Perfect work guaranteed or money back. Special confidential, inside wholesale prices and guarantee you can undersell all others. You coin money without goods. We put you in big paying business and take all risk, show you how and give you exclusive territory. Most liberal attractive offer ever made, *bar none!* Your one best chance. Keep this private and write us today. ELK TAILORING CO. 837 Jackson Blvd., Chicago.



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Poultry Raising

Produce—Then Sell



HERE are really no reasons why one in the poultry business should not make all the money possible. If you are making money with mixed breeds under ordinary conditions, why not raise the pure-breeds and be in a position to sell fowls and eggs for breeding purposes? No demand, do you say? Well, dear reader, there is a demand and a great

demand, too. A nice flock of thoroughbred fowls commands admiration. They will, to a great extent, advertise themselves. Give them a little better treatment and get one hundred and fifty to two hundred eggs per year per hen, instead of sixty to one hundred from the scrub under very common conditions.

Some say that by careful breeding and selection that they can raise the scrub's egg record. Yes, you can raise the scrub's egg record, but while you are at it why not expend your time and energies toward reaching the highest profitable returns? The pure-breeds are not only the most profitable in a direct way, but they make your place or premises look better, and give the owner a prestige that is comfortable and really profitable in the long run. To ask the owner of a scrub flock of poultry why he does not have some particular kind, nine times out of ten he will say that common chickens are more healthy. I have known these claims to be made right in the midst of the scrubs dying off. Such claims are prejudice, pure and simple. Take the common kind, or the pure-breeds, and pen them up in unnatural, close quarters, and the effect is the same in either instance. Turn them loose and give them good treatment, and both will respond very quickly.

While the first trap nests were a craze, and the excitement soon abated, there were enough logical poultry fanciers who held on the trap nests to start and maintain an improvement in egg yield. This improvement is entirely with pure-breeds. Surely the trap nests serve a useful purpose.

Another reason for the pure-breeds is the evenness of market fowls and eggs. A coop all the same color is more attractive and will bring a better price, and the same may be said of eggs. In starting out I intended to write about getting the top market price. As a starter in the right direction, pure-bred poultry is the first requisite. Any poultry-raiser that has one or more cases of eggs in a week can get from twenty to forty per cent. more for them by looking up private markets, some hotel, groceryman, eating-house, or diners on trains. Put the eggs up in cartons holding one dozen each. Put them up fresh and clean, and stamp them with a rubber stamp. A trade can be worked up with any city groceryman that caters to the high-class trade, or it can be done direct with the concerns mentioned. I know about these things, for I am acquainted with a large number that are doing it. Hundreds of breeders are making a nice thing out of this business, and there is still plenty of room left for more.

Sell Good Eggs Always

There is nothing that we eat that goes on the market in such a haphazard, filthy condition as the poultry and egg product. Consider it for yourself. Watch the groceryman or average egg-buyer fill a case of eggs for market. No matter how old or besmeared the case, just so long as it will hold the eggs and nail together, it will do. No attention is paid to the dirt or feathers sticking to the shells.

The most careless methods are followed in marketing fowls. Take a walk in the market-places of any city and get a lesson. Right there we find fowls of all ages, sizes and color in the same coop. I might say, without overdrawing, that the coops are a mixture of fowls, feathers and corruption. At the average market-place it is a relief to find a coop evenly balanced up in size and color.

In these days of coöperative creameries, grain-elevators and other things helpful to the producers, it is queer that the most important and largest industry of all is much neglected. Every town or poultry-raising community could advance the popularity of poultry and eggs as a food, and make money while doing it.

Let me say here that after a groceryman has handled a few cases of eggs put up as I have suggested, the matter of price becomes secondary to keeping that kind of stock. The cleaner and more attractive appearance gives his store a prestige, instead of making an eyesore to tasty customers. There is nothing more handsome than a stock of clean, even-sized eggs put up in attractive cartons; there is repulsiveness in a filthy stock of eggs.

A. E. VANDERVORT.

The Black Langshan

EDITOR, FARM AND FIRESIDE—

I note your short editorial on "Breeding for Quality" in a recent issue of your journal. I am particularly interested in the line of breeding fowls, that being my hobby and release from cares of my profession. Allow me to say that to a certain extent I agree with you that the feather has been made too much of in our breeding, especially in the "made" breed—that is, Rocks, Reds, etc. But there is one fowl that I have found in my experience would give best utility results as it is bred the nearest to standard requirements, and that is the Black Langshan. Now, wait a moment, please; I have none to sell, and am not trying to "boost" my own particular breed. I am writing this simply because I feel that this breed should be better understood.

Now, the requirements of the standard briefly stated are a black bird, slightly greenish, head held high, a U-shaped back (caused by the plumage and not from the real contour of the frame—the frame really is of the so-called "egg type"), long keel, with feathers down the leg, but not on middle toe.

Now I have found that a bird bred to this standard, with plenty of weight, good bone, but not coarse, will lay eggs, and lay in cold weather right here in the northeast, and as a table fowl is absolutely without a competitor. It is in brief the "best all-around bird" in the world. It has not been boomed because it has had no club backing, the old American Langshan Club having been in a comatose state, not to say actually dead; and, the two new clubs not having satisfactorily adjusted their differences, this breed has been neglected. But its time is here; the next few years will see it more widely bred, and people are awakening to the very desirable qualities which it possesses.

As a layer it lays large, two ounce and better brown eggs, and will, with any kind of reasonable care, average better than one hundred and fifty per year? Besides, it will raise chicks and begin laying when the chicks are two or three weeks old.

JOHN ALDRICH, Attorney.

Hen Fruit

I've fed 'em lime,
I've fed 'em hay;
I have a time
To make 'em lay.
They do not seem
To kindly take
To custard, cream
Or angel-cake.

They fill their crops,
They eat away,
But there it stops;
They never lay.
When I get vexed,
I'm pretty mean;
I'll feed 'em next
On Paris green.
—Louisville Courier-Journal.

Real Poultry Economy

IN THESE modern days of "big business" and scientific management, economy plays no small part. Economy, not only in the manufacture or production of the article, but also in the distribution of the same. The saving, of a small amount here and another small amount there, spells, in the aggregate, the difference between profit and loss.

Farmers and poultrymen should, as far as is possible, raise their own grain, particularly their corn and oats. We, here in the East, when we buy corn, pay, not only the actual cost of growing the crop, but also the cost of transportation from the farm where grown to the railroad, and on the railroad to our local grain-dealer. We also pay the grower a profit, the wholesale grain-dealer a profit and our own local grain-dealer a profit as well. It is claimed that we can produce corn as cheaply here as it can be produced in the West, and that being granted, one can readily see that by raising our own corn we save not only three distinct profits, but also the cost of transportation and handling en route. Since cob-meal is very nearly as good a poultry-food as bran, and serves to dilute the more concentrated foods such as linseed-meal and gluten meal, if the corn is ground on the cob, we save buying considerable bran.

Oats is another grain crop which most all farmers and poultrymen can easily raise. We are obliged to pay the same extra profits and costs of transportation on the oats, bought of the local grain-dealer, as we do on the corn. And it seems as though this item of saving is certainly one that is well worth considering. If we are so situated that it is difficult to have oats thrashed, then let the hens do their own thrashing. Hens certainly need something in which to scratch, and oat-straw is as good as anything. By thrashing the oats, the hens accomplish a double purpose; they keep busy, which is essential to good laying, and save the cost of thrashing.

Clover is another crop which all farmers and poultrymen should produce. It is very nutritious, supplies green food, another essential, adds bulk to the rations and, like cob-meal, dilutes and makes more palatable the more concentrated feeds. A man can

easily produce a ton and a half of good cured clover on an acre. This, when cut with an ensilage-cutter or a common clover-cutter, is nearly as good a poultry-food as alfalfa-meal. Alfalfa-meal costs approximately two dollars per hundred, and it does not require much knowledge of arithmetic to figure the saving on that item. Therefore, to the farmer or poultryman who grows his own corn, oats and clover, I would recommend the following ration or mash which may be fed either wet or dry.

Bran, 100 lb; linseed-meal, 100 lb; middlings, 100 lb; beef-scrap, 100 lb; gluten meal, 100 lb; corn-and-cob meal, 300 lb; cut clover, 70 lb.

To those poultrymen who own but little land and to those farmers who do not wish the trouble of raising their own poultry-foods, I would recommend one phase of poultry economy. That is this: do not buy proprietary grains, grains which are advertised and sold under varying guarantees, but which are really too expensive to buy. I would lay special stress upon the home mixing of our dry mashes and our scratch feeds.

A. W. RICHARDSON.

A Lime Paint

THERE is a preparation, called government whitewash, which gives very satisfactory results for using on rough lumber or buildings which cannot be readily painted with ordinary paint.

This preparation is made by using a bushel of unslaked lime, slaked in warm water, covered during the process to keep in steam. Strain the liquid through a fine strainer, add a peck of salt previously dissolved in warm water, three pounds of Spanish whiting and a pound of glue which has previously been dissolved over a slow fire. To this mixture add five gallons of hot water, stir well, and let stand for five days where the dirt will not get into it. This should be put on hot, and one pint of the mixture will cover a square yard if properly applied. Small brushes are best for application. Coloring may be put in to make it any shade—Spanish brown, yellow, or clay color. For inside work in poultry-houses add two pounds of carbolic acid which makes it a good disinfectant.

B. F. W. T.

A Duck Experience

RECENTLY I read an article which gave a discouraging account of one attempt to raise Indian Runner ducks. This has induced me to write, for the benefit of your many readers, my experience with these ducks for the last two years.

In 1910 I bought seventy-five eggs, set them in an incubator, tested out thirty-five infertile, hatched thirty, raised twenty-five, and disposed of all but ten—seven ducks and three drakes. The ducks began laying the twentieth of January, 1911. Up to the fifteenth of April they had laid two hundred and seventy-three eggs. At this date I sold one pair. The six ducks laid, up to October 19th, seven hundred and eighty-three eggs, and are still laying five or six eggs each day.

This last spring I set one hundred and twenty-five eggs, set them under hens for two weeks, then put them in an incubator, hatched one hundred and eight ducks, accidentally killed two, one died, and raised one hundred and five. I have now as fine a lot of Indian Runner ducks as can be found the country over. I attribute my success to the setting of fresh eggs, careful feeding and watchful care of the young ducks for the first ten weeks. MRS. C. G. MUMFORD.

If wishes were horse-sense, fools might be wise.

Read and practise up a little on the art of painting. You had as well save the big wages charged by expert (?) painters.

How Wisconsin Educates Farmers to Destroy a Plague

[CONTINUED FROM PAGE 7]

clean-up of dairies has followed these regulations. In one herd of seventy furnishing milk to Beloit, Wisconsin, fifty-seven were diseased, of which thirty-two were so badly infected as to be wholly unfit for any use whatever.

"At present over 25 per cent. of the population of the state are protected if their ordinances are enforced," says Dean Russell.

But at the present rate of testing it will take thirty-three years to examine the cattle of Pennsylvania, the pioneer, and twenty-four years in Minnesota. We have removed but a small portion of the danger. In the prize herds of the experiment stations of Iowa and Illinois a large number of their animals were found diseased as late as 1910, at least fifteen years after the tuberculin test was known.

Complete and swift eradication is an iridescent dream. Doctor Reynolds of Minnesota declares that for this all cattle should be tested twice a year and annually for the next five years, and that it would cost, for tests, disinfection and reimbursements to owners of one half the appraisal, the owner to receive the carcass salvage, as follows:

First year, \$7,533,650.

For the first two years, \$14,703,540.

For the seven years, \$35,004,260.



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WE GUARANTEE

that by the use of Pratt's Poultry Regulator you can have plenty of eggs even when prices are highest and busy hens pay big. A small dose of Pratt's Poultry Regulator added to the feed will put more money in your pocket. Try

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on all your hens. Or if you want to make a more careful test, give it to a few for a month, then compare results. Pratt's Poultry Regulator doubles the nutritive value of the feed by keeping the digestion in perfect condition.

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Our dealers will promptly refund purchase price if you do not find Pratt's Preparations pay a handsome profit. If your dealer cannot supply it, write us.

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Pratt's Animal Regulator is the great stock tonic.

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and Almanac for 1912 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 963, Freeport, Ill.

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Tells how to start small and grow big. Describes world's largest pure-bred poultry farm and gives a great mass of useful poultry information. Low prices on fowls, eggs, incubators and brooders. Mailed 4c. F. FOY, Box 10, Des Moines, Iowa

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This is upon the basis of 2,993,600 cattle in Minnesota. In 1909 there were 71,099,000 head in the United States. According to these figures, it would cost \$181,287,600 to test the cattle in the United States the first year, or \$840,102,240 to effect eradication.

Large sums; but we pay \$188,815,323 for the army in peace, or \$257,829,192 for the navy per annum.

Patience! This is a war, not a skirmish. Cities, states and federal government must cooperate by ultimately prohibiting the sale of milk from untested cows. Demonstrations should teach the people the truth. Voluntary testing laws should be slowly followed by compulsion.

Loss of money is insignificant when compared to the loss of human life. "Experimental evidence shows that milk is the medium by which the disease is most easily transmitted," declares Dr. M. P. Ravenel, of the University of Wisconsin. "The question raised by Koch in 1901 as to the transmission of bovine tuberculosis to the human race has been positively answered in the affirmative."

A British commission studied sixty cases of tuberculosis and found fourteen cases in which the bovine germ was found. They were as follows: One case isolated from the sputum; three cases of tuberculous glands in the neck removed at operation; ten cases from mesenteric glands of children after death. In forty cases the human germ was found. In five cases the germs which were intermediate between the bovine and the human. Out of sixty cases, fourteen were caused by the bovine bacilli.

A German commission examined eighty-four cases in children. In sixty-three of these the germ causing the trouble belonged to the human type; in twenty-one, or exactly one fourth, the germ was bovine.

In America, out of fifteen cases of tuberculous glands in the neck, Lewis found nine caused by bovine germs, and six by human germs. "Febiger and Jensen in Copenhagen have twelve cases, in seven of which they found the bovine germs."

Park and Krumweide of New York have done an enormous amount of work in clearing up the question. Of children under five years of age they examined eighty-four cases, in twenty-two of which, or about twenty-six per cent., they found the germ from cattle to be the cause of the disease.

In fifty-four cases of children between five and sixteen the bovine bacillus was found in nine. This makes one hundred and thirty-eight cases in children in which thirty-one were proven to have had their origin from cattle. Doctor Park estimates on this basis that at least three hundred children lose their lives in the single city of New York each year through infection from cattle. A summary gives the following figures:

	Cases examined	Found to be bovine
Adults	686	9
Children, 5 to 16 years	132	33
Children under 5 years	220	59

"These figures leave no excuse for anyone to doubt the danger to the human race from bovine tuberculosis."

Save the Floor

It is not an uncommon thing in the poultry-house to find all, or nearly all, of the fixtures, such as nest-boxes, water-dishes, feed-troughs and roosts placed low down, so they take up a good share of the floor space. Ordinarily there are no pens that have any too much floor space during cold weather, when the birds are shut inside. The room occupied with these fixtures is valuable. It is a mistake to use up space with these things, which are much better if placed above the floor.

The nest-boxes should be located along the side wall a couple of feet from the ground or floor. The hens are less apt to get the habit of egg-eating where the nests are up from the floor. Drinking-dishes, grit and shell boxes are better up where the hens will not kick litter into them. And the perches should have a platform under them to catch the droppings, and high enough up to allow free access to the floor space underneath. It makes quite a difference about the floor space in a house where fifty or seventy-five hens are wintered.

Unless obliged to do so, do not locate roosts or nests very close to doors or windows. Glass windows admit much cold during the night, and there is apt to be more or less draft through cloth windows all the time. A draft on a hen is bad whether she is on the roost or in the nest.

V. M. COUCH.

Housing the Small Flock

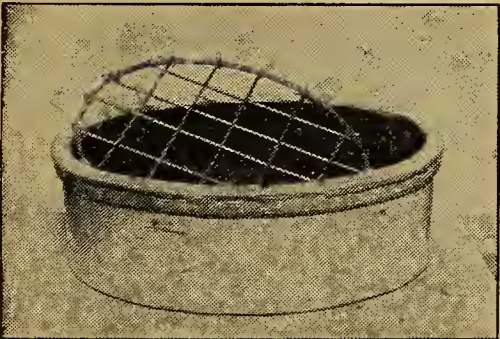
MUCH money has been wasted on poultry-houses. Some big poultry enterprises have failed because of expensive equipment. On the other hand, many successful poultry-keepers are housing their stock in buildings which did not cost more than a dollar for each hen confined in them. Most amateurs can build very satisfactory houses for but a little more than that. Single walls are enough, especially if they are made of matched boards and covered with roofing-paper. Paper will also serve for the roof, although galvanized iron makes the most permanent roofing.

All things considered, the shed-roof house is probably the best for the amateur, as well as for the commercial poultry-keeper. It is the cheapest to build and can be flooded with sunshine more easily than any other kind. No glass is needed. Double doors at the front, one of poultry netting and the other of muslin, will make windows unnecessary.

If a door at the end is preferred, let the window openings be covered with cloth. This is no longer an experiment. Experience has proven the fresh-air house to be the best. The New York Experiment Station fitted one house with glass and another with muslin. A test on a cold day showed the temperature in the house with muslin windows to be one degree higher than in the other house. And, better still, there was no dampness and no foul odor.

People who argue for warm houses fail to realize that the normal temperature of poultry is higher than that of human beings. Prof. Charles K. Graham tried the experiment of keeping a flock of White Leghorns all winter in a tent at the Connecticut Experiment Station at Storrs, and they came through in fine shape.

There are two ways in which a little glass may be used to advantage—in the west end,



A crock with "follower"

to get the afternoon sun, and close to the bottom of the house, in front, so that the first rays of the sun in the morning will fall upon the floor of the house where the birds are at work. Long openings, running lengthwise of the house and covered with muslin on frames, may be used above the low glass window, and the wind will not strike the fowls directly.

The equipment should be simple but detached from the house, so that it can be taken out and cleaned. The best feeders are boxes or crocks with "followers" made of large-mesh poultry-netting laid on the contents but not attached to the boxes, so that they will go down to the bottom as the grain is eaten. This device makes it impossible for the fowls to scratch out the grain or mash and is very simple. It is better to have the feeders on the floor, but the water-bucket should stand on a low shelf.

The floor of the house may well be of earth unless the location is damp, but it should be built up above the outside ground by the use of sand several inches deep, which should be cleaned out and replaced twice a year. Poultry-keeping under such conditions is not a complex operation, and the initial investment need not be large.

E. I. FARRINGTON.

Isn't It True?

A prophet is never without honor in his own estimation.

A woman should know her husband like a cook-book.

A stingy husband always tells his wife that she looks best in a calico dress.

Some folks do just one thing at a time, and never finish that.

Poor land grows poor crops, and also a poor grade of humanity, but there is no excuse for the land remaining poor.



The winners

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Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today.
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WE PAY \$80 A MONTH SALARY

and furnish rig and all expenses to introduce our guaranteed stock and poultry powders; money-back guarantee; outfit free; new plan; steady work. Address
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Biggest at the price. Has hundreds of dead air cells that resist temperature changes (an exclusive feature). Cold rolled copper tank, hot water heat, double disc regulator, deep nursery, high legs, double doors, egg tester, safety lamp. Special price \$7.35 Incubator and Brooder together \$9.85. Frt. pd. of Rockies. Order from this ad, our "Buy Back Guarantee" protects you, or write for our big free book, "Progressive Method." Progressive Incubator Co., Box 142 Racine, Wis.

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stand up against highest priced hatcheries, and make biggest poultry profits for owners. Write me. My book is better than ever. My offer will please you. My machines, my experience and help will insure your success.
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All Harley-Davidson motorcycles for 1912 incorporate the *Ful-Floating* Seat. This seat absorbs all the jolts and jars of the road.

The ordinary motorcycle seat only has a play or action of less than one inch. This means that when the rider strikes a three inch bump that the seat absorbs the first half inch and the rider's back bone gets the rest.

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Prepare Firemen, Brakemen, Electric Motormen, Train Porters (colored). Hundreds put to work—\$65 to \$150 a month. No experience necessary. 500 More Wanted. Enclose stamp for Application Blank and Book. State position. International Railway Corr. Institute, Dept. 38, Indianapolis, Indiana.

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Easy Methods for Saving Steps and Time on the Farm

Adjustable Snow-Plow

HERE is an adjustable triangular plow for breaking snow roads.

I have made several of these, and we like them, especially the rudder principle, as you can keep them perfectly straight in the road, also the adjusting principle is a grand feature, as you can have a road twelve or fourteen feet wide the first part of the winter and narrow it up as the snow gets deeper.

Take a straight spruce or any soft wood log twenty-four feet long and twelve inches at top, split it in halves, make the triangle with rounding side in, as shown in illustration. Take a three-inch plank twelve inches wide and twenty-four feet long for center, cut a mortise in center, four feet from rear (at point A), four inches wide by eight inches long. Cut mortise in each side in center, four feet from rear end, two inches wide by eight inches long. These mortises are for braces, which should be two by six inches, hard wood, six feet long and fastened in the side with an iron pin. These braces pass through center-piece at A and fasten with iron pin; this is where to make the adjustment. The side logs can be fastened to center-piece in front with two large T hinges. Cut a mortise through center-piece in front to hitch to. The rudder should be fourteen inches wide, three inches thick and six feet long, and should be fastened to rear end of center-piece with heavy iron plates.

I use an old road-machine blade, which should be bolted solid to rudder, and fastened to center-piece with one bolt, and left loose to allow the rudder to rise and fall. The rudder should be two inches lower than center-piece, as shown on plan. Lower edge of rudder should be hewn down to an edge. When turning around, the rudder can be raised up to allow the triangle to turn around easily. When in use, a weight or a man should ride on the rear end of the rudder, to hold it firmly down. You will be surprised to find how much better this triangle will work than the old style. Four horses will haul this triangle in any ordinary snow-storm.

A. T. RANDLETT.

Solid Snow-Plow

WHAT I have been trying to solve is a good snow-plow, because where we live in Michigan something like that must be used, on account of the drifts. The point (AA) is made of two pieces two inches by twelve inches by six feet long. BB is of two pieces two inches by eight inches by five and one-half feet long. The sides (CC) are two pieces two inches by twelve inches by five and one-half feet. DD are two pieces two inches by twelve inches by four and one-half feet long. F is a rod, the likes of which can be found in almost any scrap-pile. If desired, the point can be covered with galvanized tin, so that no wet snow will stick to it. The bottom E requires four pieces one inch by twelve inches by ten feet.

ED JESPERSEN.

No Slipping

THIS illustration shows a safety device to attach to the ends of a ladder for the purpose of keeping it from slipping when standing on hard or frozen ground. One iron is fastened to each leg.

HARRY J. SULLIVAN.

Sanitary Chicken-Roost

TAKE any sized roost desired. I use a two-by-four, which I find very suitable to the chicks. Bore one-half-inch holes six inches apart as shown in diagram, holes to be bored only one-half way through. Take an ordinary oil-can with two or three inch spout, and fill these holes with liquid louse-killer. I sometimes use patent louse-killers, and I also have a recipe of my own that I find very successful. Take one part crude carbolic acid to nine parts coal-oil, mix, and fill the holes in perch, and you will readily see that any fowl in getting on the roost will cover one of the holes, and by so doing the fumes of the liquid does the work required without any waste. That part of the liquid which seeps through the roosts keeps the mites from the bottom of roost, where they usually collect.

GEORGE BLACK.

To Lay Out Wire Fence

AN OUTFIT for laying out wire fence is a very essential thing on the farm. The one here described will be found very convenient, and is easily constructed. All that is required is two pieces of two-by-ten, six or eight feet long, with ends shaped like sled-runners, and a solid top on which the tools required in building the fence can be hauled. Two pieces of two-by-four, six feet long, bolted one on each side and running back about

half their length, makes a pair of shafts for the bale of fence. An inch hole is made near the end of each shaft, in which an iron rod is passed through the bale. Any kind of wire can be laid out this way better and faster than in any other manner. The end of the fence is fastened to the first part, and with a horse hitched to the outfit you are ready for a big day's work. G. N. McPAUL.

To Kill a Chicken

THIS sketch shows a device which will come in handy for the women-folks when they want to kill a chicken for dinner. Drive two spikes in a stump about two inches apart. Put the head of a chicken between. Hold the feet with the left hand, and chop off the head with the right.

F. W. BRIARD.

Bag-Holder

BEND a piece of baling wire as shown in sketch. The bends (BB) rest on the rim of a barrel. C is inside of the barrel. AA are hooks bent at right angles with C. Strip the holder over the rim of the barrel, and hook the bag to the two hooks; it is then easy to fill the bag from the barrel without the help of another hand. PAUL SCHULZE.

For Cleaning Broom-Corn

THE principle thing about it is the comb. To make this, a piece of clear, tough, straight-grained hickory or white oak is required, about three-eighths inches thick, six inches wide and ten or twelve inches long. Then with a thin-bladed sharp saw cut out tapering pieces about two inches long to form the teeth. Then run the saw half an inch deeper in the center of the teeth. This will make the teeth two and one-half inches long. For large corn the teeth should be one-half inch from center to center.

This comb can be fastened with wood screws to a post set in the chicken-run, or in a box. I like a box large enough to catch the seed. The seed can be fed from it as needed. My box is two by three feet and twelve inches deep, with board ten or twelve inches wide and same width as inside box, and about one third the length of the box and nailed. This is to fasten the comb to with wood screws or nails. Thus fastened it can be taken off and kept dry, and will last for several years.

My way of stripping broom-corn is to have a low stool and to lay the corn on the left side. Take from one to three heads of corn, according to the size of the corn. Hold in both hands, the left one to support the corn. Do not let it sink too deep into the teeth. Start with a little of the tip of the corn, and work toward the shank. When most of the seed is off, go over it again, holding the brush in one hand, and using the other to press down the corn.

G. H. BAKE.

For Leaky Roofs

BEGIN at the top, and fasten barbed wire tightly to the shingle roof with staples for a width of three feet. Mix three parts of sand to one of cement. Add water, and mix thoroughly, to the consistency of plaster. Lay the mixture one-half inch thick, with a trowel, even and solid. Then treat three feet more in the same way, and so on until the job is complete. Go over it a few days later with cement and water, using a white-wash-brush. This has been tried and is satisfactory.

L. E. BATCHELLER.

For Drilling

TAKE the large end of a broom-handle twenty-four inches long. Get an old three-cornered five-inch file, and drive up to the shoulders in the broom-handle, just like you were putting a handle on your file. Break the file off about two inches from handle. This can be done with wire-pliers. Then grind all three of the sides down to a point.

Make a wooden wheel about twelve inches in diameter and one inch thick, bore a hole in the center just large enough that it will slip down tightly to within about two inches of the large end of the handle. Then saw a notch in the small end of the handle to receive the string. Get a piece of wood about one-half inch thick, three inches wide and twenty inches long; bore a hole in the center large enough to slip up and down easy on the handle, and bore two small holes, one in each end, of this crosspiece. Then get a good, stout string, and tie it in the small

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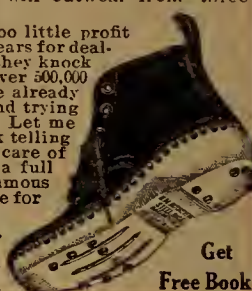
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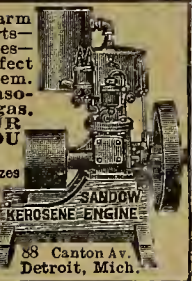
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hole in one end of this crosspiece, taking the other end of your string over the top of the handle in that notch and down to the other end of the crosspiece, and tie in the hole at that end. Tie the string so it will hold the crosspiece up about one inch from wheel. Hold the crosspiece, turn the wheel around to start the string to twist around the handle, then let go of the wheel, and pull down on the crosspiece, and your drill goes to work. For this drill-point you can use various materials.

JOE HOPKINS.

Apple-Picking Ladder



HERE is the best type of ladder for picking fruit, as it can be readily placed in the forks of the trees without breaking the small limbs, and it will not slip after once set.

The drawing simplifies it enough without a description. It is easily made. While it will be used in the fall, for the most part, it is very convenient at other times of the year. Many "narrow-ladder" jobs can be found on the farm.

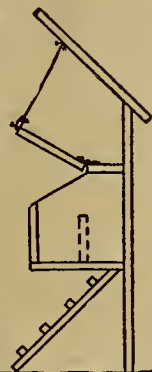
RAY MALCOLM.

It Fools the Jays

A FEW years ago we were bothered with jay-birds going into the hen-house and robbing the nests. I hit on a plan that fooled the jay-birds, by building a row of nests across one end of the house. A little space was left at each end for entrance. A hallway was built full length of the nests, between the nests and wall.

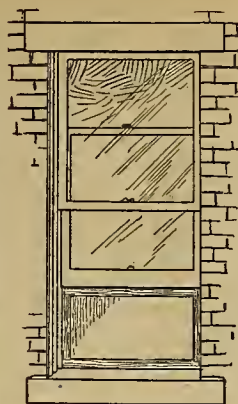
The nests are about three feet from the floor, with a ladder at each end. It makes a dark place, which suits the hen. The sketch is an end view. It shows the lid raised for gathering the eggs. A nail in the lid with a string tied to a ring and fastened to the roof will hold the lid up.

M. D. BOWLES.



A Ventilating System

AS WINTER advances and the cold winds blow, many people will probably close their bedroom windows and sleep in unventilated quarters for the rest of the season. The following is a cheap and simple way of bringing fresh air into the sleeping room throughout the winter, regardless of snows, rain or blizzards, and at the same time guarding against serious drafts blowing through the room.



Take smooth strips, perhaps one and one-half inches in size, of any kind of lumber that will not split easily, and make a frame to fit closely into the window-frame. Frame may be made of any height desired. Over one side of this stretch and tack securely a strip of very thin muslin, and set in the window-frame. Let the lower sash rest on this device. The side with the muslin on should be placed toward the weather, as it will not catch the wind so strongly and will turn snow and rain much better. It is a good plan to take the frame out of the window during the day to let the room air well. I have used this plan two winters with satisfaction.

FRED L. BAILEY.

A Butchering Kink

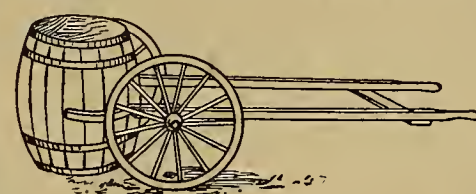
BUTCHERING-TIME with its abundance of meat and labor is apt to make the busy farmer careless about saving all the edible parts.

Here is my way for getting the maximum quantity of lard without any waste. After rendering in the usual way in an open kettle, the lard is dipped off and the cracklings put into a muslin bag with two or three flatirons which furnish the necessary weight. They are then put back into the kettle and water is poured in until the bag is covered three or four inches. Bring this to a boil and then let the fire die out. When the water is cold the grease which has formed a cake on top of the water can be collected.

C. B. KING.

Handy Barrel Cart

COMMONLY arranged, a hand-cart for transporting a single barrel requires barrel to be ironed or otherwise fitted up, and the cart cannot be used with any other barrel. The cart illustrated may be used with any barrel. Procure a stout piece of three-by-three-inch wood, a little longer than greatest diameter of an ordinary barrel; round down the ends and put on iron ferrules to fit in wheels of an old hand-cart as an axle. Or, instead of rounding ends, leave square, and attach the old iron axle of a cart by staples or clips.



Procure two long pieces of wood as light as consistent with strength and rigidity, taper them down at one end to be convenient for hands, and at large ends of these handles bolt firmly on each a piece of heavy wagon-tire curved slightly to fit sides of barrel. About one foot from handle ends bolt a two-by-one-inch crosspiece on under side to serve as a brace; bolt solid at one end, and at other end make several holes an inch or so apart, so that the bolt can be put in whichever hole will hold handles the right distance apart to conform to size of barrel.

J. G. ALLSHOUSE.

Why Not Sow Cow-Peas?

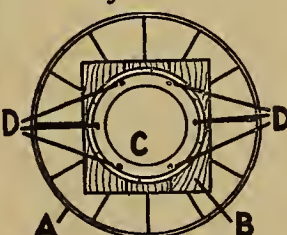


FIG. 1.

screws around rim; DD are holes one-half inch in from edge of pan, from which peas drop as wheel goes around.

Fig. 2 represents boards on which pan is fastened. A is hole which slips over the hub of wheel, and also used to fill pan; BBB are wires through boards, which are fastened to spokes to hold all to place. As wheel goes around, the seed scatters out between the corn-rows. One of these should be on each wheel. Skip one row each time until once over, then take off and plow remaining rows.

For small peas, six-and-one-half-inch holes in pan fifteen inches in diameter, on forty-four-inch wheel, will sow about one bushel to the acre. A heavy washer inside of pan will keep holes from clogging.

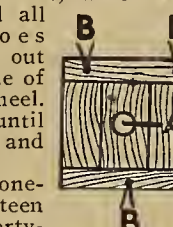


FIG. 2.

E. W. EVERS.

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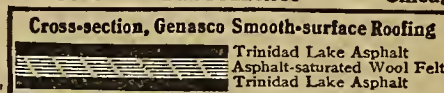
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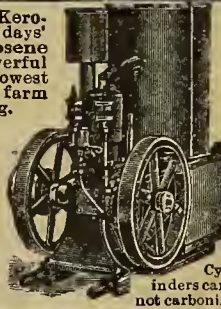


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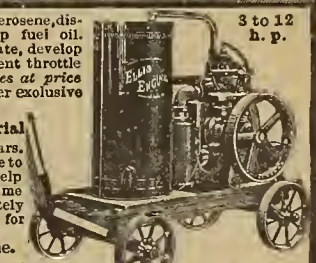
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Dairy Sweepstakes

Vermont State Fair, L. R. Dana, Pomfret, score 98 ½.

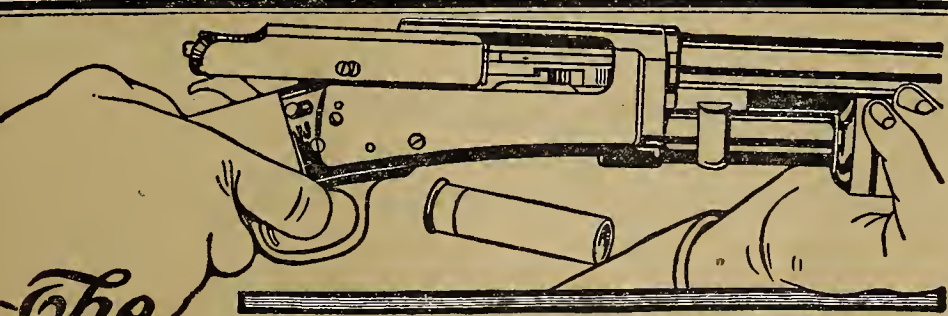
Dairy Butter—First Prizes

Michigan State Fair, D. P. Miller, Almont.
Illinois State Fair, Wm. Brautigam, Brighton.
Virginia State Fair, R. S. Hartley, Youngsville, Pa., score 96 ½.
Vermont St. Fair, E. H. Hazen, White River Jct., score 98 on prints.
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I would like to send you a new booklet just issued by the Santa Fe about the San Joaquin Valley. It details the experiences of people who have taken up different lines of farming in the San Joaquin Valley, and tells of the results they have secured. It tells of the openings there for homeseekers. It tells how hundreds of earnest, ambitious people with little money are making these farms pay for themselves. It will be an inspiration for the renting farmer laboring under unfavorable conditions in older communities.

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Crops and Soils

For Bigger Crops

RECENTLY in FARM AND FIRESIDE, the facts were told as to an important discovery by the Bureau of Soils of the Department of Agriculture, which showed the existence in a large number of samples of poor soils of a certain poisonous substance known as dihydroxystearic acid. This substance has been conclusively shown to be injurious to plant life, even in small quantities. Many facts have been brought out by long and patient research to prove that one of the foremost causes of the failure of many soils to produce good crops is that these soils contain the harmful compound named.

That this discovery opens up a new field of operations for the practical farmer and for the scientific student of agriculture is too apparent to need argument. When the physician has found the nature of the germ that is making his patient sick, has identified that germ, the next question before him is how to get rid of it. The same question is presented with respect to dihydroxystearic acid. Now it is not to be supposed that this compound is the only substance harmful to crops which exists in soils any more than the typhoid germs are the only agents that get into the system of the human to make him sick. But soil study has now gone far enough to disclose the existence of one great harmful constituent of soils, and it follows that the development of the best methods of getting rid of it is worthy of the closest attention.

More Study Needed

The truth is that there is much yet to be learned on the subject of how to get rid of dihydroxystearic acid once it has found its way into the soil. The experts of the Bureau of Soils do not hesitate to admit this. They have not found out all there is to be found out on this question of eliminating the poisonous compound from the ground. In a general way, however, they have found this, that air is the enemy of dihydroxystearic acid. They have found that when the soil is well aired, the dihydroxystearic acid is readily changed to other compounds.

When soil samples containing the harmful substance in question are kept in the laboratory or greenhouse under conditions of good aeration for a few weeks, the compound disappears entirely and can no longer be detected by chemical means, while at the same time the soil has been greatly improved for plant growth by this treatment.

It is an interesting fact that the discovery of how to get rid of dihydroxystearic acid in soil was made at the Bureau of Soils by accident. One of the samples of soil known to contain this substance was left for weeks about the laboratory. It was kept in an open box and given no attention. It was kicked about here and there as it chanced to get in anybody's way. Not by design, but by chance it managed to get well shaken up and dried out. After several weeks of this treatment, it was analyzed again and then it was found that the dihydroxystearic acid had disappeared. Attempts were made to grow plants in this soil and a strong, healthy growth resulted.

This opened the eyes of the experts of the bureau and pointed out to them the road, or at least one road, to be followed in getting rid of dihydroxystearic acid. Something must be done to promote aeration. The best remedies are liming drainage and the use of good organic manures. Liming has been found to be very beneficial because it combines with dihydroxystearic acid for one thing and also because it helps to break it up into other less harmful or perhaps even beneficial compounds. Drainage of the soil aids materially in two ways: First, it allows a freer access of air with deeper penetration of healthy roots, which in time promotes oxidation and thus aids in the destruction of unfavorable organic matter; second, it produces beneficial results by an actual removal or carrying away of the harmful material in the drainage waters, as well as perhaps eliminating the cause of its formation. When it comes to organic manures, it appears that the introduction of easily decomposed organic matter causes greater bacterial activity and greater oxidation in the soil. Beneficial changes result. The fertilizer salts are shown by experiments to act in a much similar manner, inducing or quickening changes which take place without them only slowly or not at all.

What Methods are Best?

But while these facts are known to be true, it is still true that much remains to be done in the way of field experiments for the purpose of devising the best methods of getting rid of dihydroxystearic acid and other harmful soil compounds. It has been necessary for the Bureau of Soils to confine its work mainly to the laboratory. The reason for this is lack of funds from Congress to conduct field experiments on a large scale. Dr. Milton Whitney, Dr. Oswald Schreiner and other prominent scientists in the Bureau of

Soils are hopeful that it will be possible soon to get an appropriation for this purpose. Meantime, whenever the advice of the Bureau of Soils is sought, as to what to do to get rid of dihydroxystearic acid, the keynote of the advice is always the same as the disclosures in the laboratory warrant—that is, to promote aeration, drainage and to use lime and good organic manures.

If one owns a field which is "soil sick," which seems to be run down, which will not produce good crops, it will be worth while to have the soil examined. Any good chemist can determine by analysis whether there is dihydroxystearic acid in the soil. The approved methods for finding it can easily be obtained from the Bureau of Soils. One need not be an expert soil chemist to find it. It is recommended, however, that not less than ten pounds of soil be analyzed. In a smaller quantity, it will be difficult to find. If, on analysis, it is proven this compound is present, then the next thing to do is to give the land such treatment as to drive it out.

In the light of the discoveries recently made a long step in advance will have been taken, however, if it is once shown that a poor field contains this harmful compound.

Cures for One Evil

Hitherto, in trying to treat an unproductive soil, there has been much groping in the dark. This condition is by no means yet removed entirely. But if one is confronted with the specific problem of removing dihydroxystearic acid from his land, the object before him is at least specific and definite. The poisoned soil must be purified. Careful attention must be given to good, deep plowing and harrowing, the ground must be opened up thoroughly, it should be given lime in plenty. Drainage should receive careful attention, and good manures should be applied.

Later on, it is the hope of Dr. Milton Whitney and his associates to be able, through field tests, to give still more detailed advice for the treatment of such soils. But until that time there is no reason why any person should not proceed for himself along these lines. They will undoubtedly be found beneficial. At the same time, as already indicated, there is a wide field opened up by the discovery that the soil does possess definite harmful substances; it is a field that has just begun to be explored, and there is yet much to be learned about it. Individuals and institutions are being encouraged by the Bureau of Soils to undertake tests and investigations in order that the utmost light may be thrown upon a subject whose importance to agriculture and to industry in general is obvious.

JOHN SNURE.

EDITOR'S NOTE—Of what great value are lime, manure, drainage and rotation! No one is willing to assume a knowledge of *all* the benefits coming from their use. Every day points to a new reason for old practices.

You can't save your hide by skinning your farm.

No breakfast-food is ever made out of the wild-oats crop.

The mule that kicks a cussing master is just replying in its native language.

A nice field of green alfalfa is worth a whole lot in keeping down the blues of a dry season.

Work which wears one out is that which he hates; the secret of endurance is love for the task.

A \$10.00 Soil-Tester?

TO THE EDITOR OF FARM AND FIRESIDE—

The Foote Farm Laboratories of Fredericktown, Ohio, are putting out what they call the "Foote Soil-Testing Outfit." They are widely advertising this outfit and offering it to individual farmers for ten dollars. They also include in the outfit a copy of my book, "The Story of the Soil," supposedly as an added inducement to the purchaser. I wish to say that I knew nothing of the Foote Farm Laboratories until we began to receive inquiries from their advertisements. We at once ordered an outfit, including all instructions, and have thoroughly investigated the outfit and the methods by which the Foote Farm Laboratories claim any farmer can analyze his soil, the following quotation being a sample of their advertising:

The Foote Soil-Testing Outfit is a complete, practical farm equipment with which you can readily tell what plant-food each one of your fields needs and what they already have. It tells you just what food elements are in your soil and what is lacking.

A thorough investigation of this outfit clearly reveals the fact that it is absolutely worthless. The so-called directions for testing soil not only give no valuable information, but they are absurd and senseless. The farmer who pays ten dollars for the outfit and attempts to use it will have thrown away both his time and money. I make this statement because my name is being used in a way to mislead.
CYRIL G. HOPKINS.
University of Illinois.



The FARMERS' LOBBY.

Sugar-Beet Promotes Trust

By Judson C. Welliver

THE sacred sugar-beet, as Dolliver used to call it, is back on the job. "The ubiquitous beet" was another of his characterizations. "For," he once said to me, "the sugar-beet has served more political purposes than any other creation known to our institutions. It is a political machine, a financial resource, a noble, hoary old tradition, an ever-present friend in trouble, a reliance of all standpatism on tariff. Whether the issue be Cuban reciprocity, Philippine annexation, tariff revision, Dutch standard of color, the prosecution of customs crooks, irrigation of arid lands in the West, you find the sugar-beet, arrayed in spotless robes of virgin purity, stalking to the center of the political stage and in dulcet, insinuating tones assuring you that you can't do the thing you want to do, or you must do the thing you don't want to do!"

Dolliver was about right. The sugar-beet has been for twenty years the biggest thing in our tariff policy and in our international relations.

And it's back, putting up the old arguments in a new form to convince us that the sugar tariff mustn't be revised. Two years ago, during the tariff session of 1909, it was escorted to Washington by the Michigan beet-sugar manufacturers, who introduced it into the best circles of tariff-making society, and put it through its paces by way of demonstrating that it was the really realest candy kid of all the infant industries. No matter what happened to anything else, the beet must be cared for and fostered.

A decade before that, when Congress was struggling with the question of Cuban reciprocity, and there was an insistent demand that Cuban sugar be admitted free, the sacred beet showed up in this town in tow of the Oxnard crowd. They were in the height of their glory as promoters of beet-sugar factories and sugar-beet culture in the West at that time, and they told Congress that if it let Cuban sugar in free, or at a greatly reduced duty, it would kill off the great and thriving beet-sugar industry of the West. No; under no conditions must Cuban refined sugar be given any concessions; and, as to raw sugar, why, only the most trifling allowances could be made in its favor without wrenching our precious beet out from its place close to our heart, by its very beet-roots.

The Wonderful Prospects of the Beet

AND regularly, inevitably, year after year, the Department of Agriculture issued an imposing bulletin—commonly several of 'em—setting forth the wonderful prospects of the beet-sugar industry, forecasting that some time in future the beet would supply us with our whole national requirements of sweetener. Congress liked it, and the people did. Nobody suspected that there was anything eccentric about it.

After a time it was discovered that every time the beet won one of its notable victories over the sugar trust, the trust turned up a little while afterward as the beneficiary. If the sugar-beet objected to free sugar from Cuba, it turned out later that the sugar trust made all the profits that accrued from the establishing of a preferential duty on Cuban raw sugar but giving no preference to Cuban refined. The beet amiably consented to letting in 300,000 tons a year of Philippine sugar, duty-free; and right afterward it was discovered that the trust had bought Philippine lands, and was going to raise the entire amount, bring it to this country free, and save a little matter of \$1.34 per hundred pounds duty. At every move the beet made the fight—and the refining trust, always supposed to be bitterly hostile to the beet, made the profits.

Then the truth came out. The sugar trust owned big blocks of stock in a great string of beet-sugar factories. It kept them for political purposes, because the beet had friends, and the trust had none. You could almost get Congress to give the beet an order on the mint and the Bureau of Engraving for the total product of coined and paper money; but you couldn't induce Congress to take real money from the trust without biting it and putting on the acid test to see if it were good.

Great combination, that. The trust owned the beet, and the beet got Congress to do what the trust wanted; and Congress was innocent enough—or worse—to do it about every time. The people paid the freight; paid it when they put the sugar in their coffee, made their jams, "put up" their fruits, or bought a box of candy.

They coughed up about \$100,000,000 a year on account of the sugar tariff, just because they loved the beet and believed in its sincerity.

Naturally, it was some shock—quite some—when the horrid truth came out that the beet, posing as the innocent ingénue of tariff society, was really just the mistress of the sugar trust. That was about the size of it. The Department of Justice investigators found it out when they went a-prosecuting of the trust. They got its books into court under a subpoena duces tecum, or some other weighty process that would squeeze the life out of any respectable institution, and squeezed out of them the proof that the trust had twenty million dollars or thereabouts invested in beet-sugar, and to all practical purposes controlled the industry.

Well, the Department of Justice got busy and started a suit to dissolve the sugar trust under the Sherman law. That was a year or so ago. Among other things it alleged was this control of the beet-sugar industry, and it charged that this constituted a conspiracy in restraint of trade. It asked that the trust's control of the beet concerns be stopped, that the two interests be

THE beet-sugar people will probably fight for the duty, and then the refiners will come in and meekly ask for their little differential—and get it, too. The people will go on paying the freight, and the trust will go on making the money, and the beet will go on spreading the gospel of hope that some day sugar may be cheaper.

wrenched apart, and that the future restoration of any such intimacy be enjoined.

That suit has not come to trial and decree as yet; but without waiting for it the sugar interests have started their campaign to get the sugar legislation they want in the coming revision; and this time the Colorado crowd of beet-sugar people are taking the lead. The Great Western Sugar Company is coming to the fore for this fight, just as the Michigan Sugar Company did for the 1909 fight.

Mr. Charles C. Hamlin of Colorado Springs is the Peter the Hermit preaching this new crusade. He has come east to tell the folks all about the new menace to the beet. He says that the cane-sugar refiners want free sugar this time. He knows it; they want free sugar, and they are going to make a desperate fight for it. Now, that, of course, looks good to people who don't do anything with sugar except buy and eat it, as most of us don't. It suits the trust, according to the argument now being put forward, because the trust knows it's frightfully unpopular, and thinks it could

"OHIO," remarked Mr. Hamlin casually to the Cleveland reporters, "is one of the great sugar states of the future." Sure it is; so is Iowa, when the propaganda gets there; so is New York, when the movement sets out to line up support there; so is Indiana, Michigan, Kamchatka, Liberia and Singapore, if they have any votes that we need to save the lofty, the noble, the superior and the inaccessible tariff on sugar. But save it we must!

solidify itself with the rabble by reducing the price of sugar about one and one-half cents the pound, which it could do if it got free raw sugar. At the same time, it could add to its profits, because it wouldn't need to give the public the full benefits of the reduced duty. Great scheme for the trust, eh; what? Of course. But ruinous for the beet.

The Beet-Sugar Crusade

WHEREUPON Mr. Hamlin launches into panegyrics on the possibilities of the beet-sugar industry. Same old pannys, only Mr. Hamlin does it rather better than anybody else has done it of late. He's newer at it, and puts more real dramatic feeling, more tensivity, more real art, into his work than the old-timers who have been playing the part so much longer.

Mr. Hamlin turned up in Cleveland the other day, took a suite at the best hotel, and got interviewed by the papers. He told them that the fight was on, and that the beet was making its last stand. If it won, this

country would presently be raising enough beet-sugar to supply its entire needs, and saving so much money by it that we'd all be rich before we knew it.

You could read those touching observations and actually convince yourself that you would soon be putting a dollar in your pocket every time you dropped a lump of sugar into your morning coffee.

"Ohio," remarked Mr. Hamlin casually to the Cleveland reporters, "is one of the great sugar states of the future." Sure it is; so is Iowa, when the propaganda gets there; so is New York, when the movement sets out to line up support there; so is Indiana, Michigan, Kamchatka, Liberia and Singapore, if they have any votes that we need to save the lofty, the noble, the superior and inaccessible tariff on sugar. But save it we must!

The sugar trust, according to the orthodox line of sugar conversation the lobby will carry this year, has already shunted off the beet factories. They have been turned loose to drift for themselves. They must sink or swim, live or die, survive or perish—recollect that P. Henry stuff?—according as the tariff protection goes or stays. It is war to the knife, and the knife to the hilt. True, the trust used to own a lot of sugar factories; but it has let go of practically all its interests in them, and is out to scalp 'em at sight. It intends to ruin 'em by getting Congress to take the tariff off sugar; then it'll have the field entirely to itself, and it's going to boost prices so high that sugar will be as rare as lemons in the barrel of free lemonade at the Fourth of July celebration. The country can only save itself from this calamity by keeping the present duty on sugar, saving the beet, and awaiting the time when the beet-sugar interest will grow strong and militant and will fight the trust all over the place and finally back it up into a corner and choke it into agreeing to give the people sugar for just about nothing!

All of which, to me, is interesting but in no wise convincing. I've seen too much of this opera bouffe war between the trust and the beet. Maybe it's true; but out in Iowa we used to say on such occasions, "I'm from south of the state line." That was Missouri.

Why Not a Three-Cent Sugar?

THE real point to it all is that they don't want the duty on sugar reduced. That's always the real point. They want the refiner's differential maintained; they want the Dutch standard of color left in the law. They may not insist that they want all these things, at this time. But before they're done with us, they will want and be fighting for all of 'em. The beet-sugar people will probably fight for the duty, and then the refiners will come in and meekly ask for their little differential—and get it, too. The people will go on paying the freight, and the trust will go on making the money, and the beet will go on spreading the gospel of hope that some day sugar may be cheaper.

All right, for folks that like theirs that way. For me, I'm for free sugar; raw and refined, cane and beet, Cuban, Javan, Dutch, Demerara, Philippines, Porto Rican and Guianaese. I want to see the people who eat about seven billion pounds of sugar a year get it for two to three cents the pound.

When they come around to your town telling you about how the farmers are going to get rich raising beets for a sugar factory that'll be started if you get your congressman to vote to keep the tariff on sugar, look into the experience of other communities.

It's a curious fact, at this time, that nobody in Congress knows anything about what's to be done with the sugar schedule. There is general disposition to reduce the duty somewhat; but whenever it is suggested to make any considerable reduction, the objection is that the revenue is needed. The sugar tariff produces about \$52,000,000 of custom-house revenue annually. Congress is apparently going to urge that it can't get that \$52,000,000 anywhere else, and so will have to continue the high protection of sugar. Well, the \$52,000,000 could be produced from stamp taxes, or tobacco, or incomes, or a lot of other things, and cost just exactly \$52,000,000 to raise; whereas, when we raise that revenue from sugar, the people not only give up the \$52,000,000 that the government gets, but about twice as much more that goes to refiners, beet-sugar people, domestic cane-raisers and the rest of 'em. It seems to me that we are asked to pay too much for the industry.

My Mother: An Appreciation—and a Longing!

By Haryot Holt Dey

WHEN I was a child, I longed to know about my mother. This was because I never had a mother—after I was four and a half. No one suspected that I cared to know about her possibly, otherwise they would have talked to me of her. The ironing-board stood in the corner of my bedroom, and I used to fancy it was my mother's ghost, so tall and straight and white in the darkness at night.

The idea of its being a ghost, perhaps, might have frightened me, only the thought that it was my mother's chased away all fear. Sometimes at night when I was wakeful, which wasn't often, it kept me company and so from being a phantom it became real, and the supernatural idea gave way to a perfectly normal one, and the ironing-board became my play-mother. Once they took the ironing-board away, and when they said they had found a more convenient place for it, I cried. They thought it very strange that I should cry because the ironing-board was not in my bedroom, and they put it back and looked at each other, and said that I was a strange child. I never told them the relation of the tall white ironing-board to me—that it was my play-mother. It was one of the secrets children keep locked within—because no one would understand.

This is rather a curious thing I am now going to tell about my mother. You are warned. Don't read any further if you don't want to feel a bit awed. My grandfather kept a large hotel in a small town, and it was there my mother died. In those days—bless you, my hair is white now, and my half-century mile-stone is left far behind—it was customary to watch with the body of one who had gone—that is, the body was not left in a room alone. On the day of the incident I am referring to, it was the noon-hour, and the family were about to go to dinner when someone asked me if I would stay alone with my mother and take care of her for a little while. It seems a curious thing for them to have done, but they did it—left me in the big hotel parlor alone with my dead mother, locking the door behind them. In a little rocking-chair, moved up quite close to the body that was covered with a white sheet, a little girl not yet five years old sat gravely and watched while the family went to dinner. Twice she removed the sheet from the face of the dead, and looked.

Yes, it was Mama; very white and long and cold; quite different, but it was Mama just the same.

This is all. You are past the worst of it.

The family came back from dinner. The key turned in the lock, and they came in and praised me. I had been alone with my dead! There was dignity in the situation; I was all my mother had to leave behind her, for my father had gone the year before. We had been excellent companions. She had tried to cultivate little habits in me. One of them was that as soon as my hands were washed I must run to her to have the nails cleaned while the hands were dripping. "They" didn't know about this, and so afterward I am sure I often had very dirty hands, for once a little girl in school spoke to me about it. We were six. "Why don't you wash your hands?" she said to me, showing me her own, which were very clean. That night I spoke of this to the ironing-board, and the ironing-board reminded me of how careful my mother had been, and how particular.

"I am your play-mother," said the ironing-board, "and you must stand right here close by me every day with your hands quite wet and dripping, and I will show

you how to do them for yourself. You know mother always wants her little girl to have clean hands."

It has been a good many years since this happened, considering the half-century mark that is passed, but I am speaking of it now for the first time. Those dear people who wondered why I always went to the ironing-board after washing my hands, and who never found out, are all gone now, so it cannot make them feel badly. They never knew why I always studied my lesson near the ironing-board, and why I sat there sometimes contentedly and rocked, nor yet why I sometimes cried with my arms around it. How little the grown-ups know of the thoughts of children! And once when I was going to a beautiful party, and was dressed in a low-neck dress and wore a chain and locket with my mother's picture in it, I ran back to my room to let the ironing-board see how I looked, and to promise this play-mother I would tell her all about it when I came home. I lost the locket, and—well, there are some things too dreadful to talk about! The tall white board was an immense comfort to me during the times when I needed a comforter. I sometimes sang to it the chants and hymns my mother had sung to me. "They" never knew why I did all my singing quite close to the ironing-board. It was a curious fancy—and me telling it when I am long past the half-century mark, spectacles, gray hair and no end of wrinkles—but when I put my arms around the ironing-board, I was conscious that my mother's arms were around me!

Someone may have suspected my loneliness, for once my little cousin's mother took me on her lap. There was great satisfaction in the situation for me, but it did not last long. We were sitting in a rocking-chair, and the chair broke down almost immediately, making a fine big crash which startled us out of our wits, and set everyone running to discover the cause of the noise. All looked reproachfully at me. I was scared and ran as fast as I could to play-mother, and leaned very heavily against her, so that she fell over, making another crash, and again everyone came running. They found me lying on the prostrate ironing-board, crying. They gathered us both up, and said it was a wonder that great heavy ironing-board hadn't killed me, falling over on me so. As if it could, when it loved me far better than they did; when it stayed in my room every day in the week, except Tuesdays; was always there waiting for me to come home from school, and watched over me all night long! Best friend of my lonely childhood!

There were two sisters of charity wearing immense white linen bonnets who passed our house occasionally. I made explicit inquiries about them, and learned that they took care of orphans, that they found orphans and took them home with them. Those gentle-faced sisters would have been amazed had they known why one little girl always took to her heels when she saw them coming, as if they had been child "catchers." On these occasions I sought the protection of the ironing-board which stood slantingly against the wall, so I could hide behind it. No one ever knew what the presence of that ironing-board in my bedroom meant to me.

Once grandma came to visit us. I went to bed that night in my own bed, and awakened in the morning in grandma's bed. I smile now through tear-filled eyes as I remember my happiness on finding myself in grandma's bed; to know that she had cared enough about me to lift me in her own arms, and carry me to her own bed! I came very near telling her about the

ironing-board play-mother, but thought better of it. There was a little girl in our neighborhood named Anna. Anna was not considered a very desirable companion for me, and I was forbidden to play with her. I don't yet know what the objection was to Anna. However, it was because Anna's mother looked like my mother that I liked to go to Anna's house. There was something about the smile of Anna's mother that made me see my mother's face in hers. I was reprimanded and punished for going to Anna's house. How little we know of motives in our children! Anna died, and after that they allowed me to go to see Anna's mother. She was lonely and was glad to see me, because I reminded her of Anna. So I had Anna's mother all to myself, and I studied to be as engaging as possible, so that I could see her smile, because her smile was like my mother's. What strange reminiscences these are!

All my life I have envied girls their mothers. I have envied them the someone they have to love them, to care for them, to even scold them as mothers scold. I have watched them kiss their mothers and wondered how it must seem. I have come through life—long past the half-century mark, mind you!—inventing the qualifications of the women I have met. Separating those who would not make desirable mothers from those who would—as if they were sheep and goats.

I have wondered how it must seem to have someone who regarded me as mothers regard their daughters. I have longed for someone older and wiser who would care about what I say and do and wear; someone who would ask me where I am going, and what I am thinking about; who was concerned about whether I had on my rubbers and my flannels; someone who cared if I sneezed and if I slept; someone to take that intimate interest in things as only a mother does. Then, too, I have wondered if, having her, I should ever forget what a blessing I had, and, forgetting, speak unkindly, or be thoughtless of her comfort. Oh, I know what you are saying to yourself as you read this! I can read your thought. You are reflecting like this: "Oh, you! Why, you are long past the half-century mark! You must know about everything yourself, you who are old and spectacled and wrinkled and gray!" True, I am! But one of the phenomena of life is this foolish farce about growing old. It must be because there is always someone who is still older, and if that someone is your mother, it's quite splendid. We grow up; we grow big; we grow weary and wrinkled and gray and short-breathed and fat! We reach the years when we expect to know, and we don't know any better than we did. It's a distinct disappointment, and it finds me unreconciled.

So I wonder what I should do if I had a mother—if I were again young. Should I be like the rest—careless of her, maybe? Marry to displease her, possibly? Consult only myself, and forget her? Frown when she asked me to dust? Be disagreeable when she taxed my time? Be disrespectful when she wanted me to sew or to mend, or to make my bed a little better than I had been in the habit of making it? Would I retort quite boldly, telling her she is old-fashioned and doesn't know? Should I laugh at her ideas that are behind the times? Should I allow her to do all the sacrificing, and accept carelessly her sacrifices?

I wonder just how I should behave? When I think about this, memory brings before me the figure of a little motherless girl with her arms around a tall white ironing-board—a substitute for a mother in a little girl's lonely life.

Two Farmers' Ways of Doing Things

What One Did and the Other Didn't

By Almira Vaughan

FARMER HASKINS drove an old, dilapidated buggy-top twisted awry. It wouldn't stay up in a rain and was covered so thickly with dried mud that it was impossible to see its original color. He seldom washed it.

"What's the use," he said, "with them mud-holes?" Yet, he was ever "agin this everlasting expense, fixin' roads," and always too busy to lend his team or to help with his own labor.

Farmer Morgan drove an automobile, not a three-thousand-dollar one, not even a two-thousand-dollar machine, but an efficient and thoroughly up-to-date one.

Farmer Haskins' premises were a disgrace to the district. They bespoke shiftlessness at every turn.

Paint off the house, loose bricks on chimneys, gates hanging by one hinge, sod scraped off and never replaced, no flowers, "weeds" he called them, when his poor wife wanted a few cents to send away for seeds—told her she had better weed the lettuce-bed or strawberries, which were a tangled mass of runners, and the berries were so small they were no larger than wild ones, yet he wondered what the dickens did ail them!

The pig-pen was a mass of tumbled-down debris. It was almost impossible to get into it for wire. His pigs were dirty animals. It was enough to turn one from eating pork to see Haskins' pigs and pen. The corn-bin was all lop-sided, and the corn tumbling out through loose end slats. The chicken-wire was always down or rusted out, and the biddies and peeps always on the porches or walking around the kitchen, feeding on crumbs dropped on the floor. Chickens around his feet didn't bother him, he said. The chicken-coops were full of lice, the dirty water-pans were rusty and half full of dirty, muddy water, yet he wondered why he was always having to pester with sick chickens. His wife doctored them as best she could. And flies! No screens anywhere; "hard enough to get glass, let alone them wire traps that keep out the breeze."

Farmer Morgan swore by paint and whitewash. Haskins said, "it did beat the Jews, the amount of white-lead kegs there was settin' around the station platform marked for Jim Morgan." And linseed-oil by the barrel! Haskins said, "Well, I'm a farmer, no daubin' for me." James Morgan's buildings shone like white satin. Everything was painted or whitewashed that would take it, even the tree-stumps. There were no broken hinges around his place; the pig-pens and chicken-coops were cleaned regularly with carbolic acid in solution, which was death to that pest: chicken-lice.



"It was almost impossible to get a good teacher for No. 3"

There were flower-beds and grass everywhere, the lawn was trimmed so neatly it was a veritable landscape picture. Passersby used to slow up as they drove past Morgan's farm just to gaze in at such beautiful, well-kept premises. They were the owner's pride. It was easy to see that his heart was in his home. There were a telephone, piano, books, everything for convenience and happiness. Morgan's children never seemed to care to loaf down at the kerosene-lit, stale-smelling combination grocery and dry-goods store. One of the Haskins boys was there every evening chewing and spitting, playing checkers with some habitual haunters of this place.

It was a mystery to all the school-book agents who tried to put in new books in "Haskins' deestrick," as he called it, how he ever came to be elected a school trustee. He couldn't write his own name. The school-books had been in use in the rural school of that district since he was a boy, folks said. And as for "wimmin' teachers! Well, their bizness was to be at home milkin' and churnin'—doin' a woman's work, not a man's." And he voted each year to pull down the wages. Besides, he believed in "boardin' round." He would be glad to board the teacher, the board could pay him for her keep. It was almost impossible to get a good teacher for "No. 3," as it was known. And after one term, with Bob Haskins "overseen' things," as he termed it, no applicant ever asked for another term.

The best teachers were none too good for No. 4. "Get a good one, and pay her well, so she'll stay," was Farmer Morgan's motto. "Buy modern apparatus, keep everything around in order, install good heating and ventilation appliances, keep abreast of the times as to new methods, use books that contained them! Have a Boys' Corn Club, use all the ground to be had for a school garden, and above all have a good, big playground! Visit the schools, know what was going on!"

Do you who read these lines know any types of these two farmers? Which do you prefer to be?

The Home Interests' Club

They Bring the Fresh Air Into Their Discussion

By Margaret E. Sangster

THERE is always a charm in making a start. When we set out on a journey for pleasure, we usually feel as if flags were flying and drums beating. Of course there are journeys that we do not begin for pleasure, but we may be thankful that they are the exception proving the rule that life holds more joy than sorrow. The dawn of a new year is the commencement of a new era in our lives, another journey on the road, and another chance to express our individuality and help our friends and neighbors.

When the club met for the first time, on a bright day in January, the greetings and good wishes befitting the occasion were cordial and spontaneous. Faces were bright, hand-shakes were hearty and the air thrilled to the repeated wish that everyone might have a Happy New Year, until the familiar words seemed like a motive in music. It took a little while to settle down to business, but finally all were present, the roll was called and the subject for discussion was presented by Mrs. Elderbury. Her topic was ventilation, and she dwelt with emphasis on the necessity of constantly renewed fresh air in the home. "When I was a child," she said, "I remember that it was by no means unusual for an entire family to die, one by one, at intervals of two or three years, of consumption. It occurred to no one, not even to physicians, that there was no occasion for this terrible sacrifice of life. I remember a beautiful homestead where a large substantial stone house stood well back from the road, surrounded by elm-trees which effectually shaded it from the summer sun. It was always cool in that house on the sultriest day of July. On the first cold days of autumn, air-tight stoves were lighted, and although in the living-room there was a large fireplace, it was carefully boarded up, that a great base burner might be placed in front of it, with a pipe running through to the chimney, while an opening was made to the floor above, so that volumes of heat might find their way to the sleeping-rooms of the daughters. Later, weather-strips were adjusted at all the windows, and list was tacked on the edges of certain doors, while every device that could possibly be thought of in defiance of winter's cold was brought into requisition. There was a tradition that consumption was in the family, and on this account the utmost precautions were taken against disease. The girls, of whom there were four, were lovely willowy creatures with delicate rose-leaf complexions, slender hands and feet, and an aristocratic air. Lillian was the first to go. She was tenderly nursed by Gertrude, who slept not merely in the room with her, but in the same bed. Lillian was ill for a twelvemonth, and she had not very long been laid in the family plot, on the hillside, before the mysterious malady attacked Gertrude. In due time Gertrude followed her, and then Katherine, and last, Elizabeth. The bereaved family received no end of sympathy, and the pastor preached on the strange dealings of Providence in this stricken household. Forty years ago many things were attributed to Divine Providence which ought to have been laid at the door of human ignorance. We have learned better in this day. One of the duties and responsibilities that intelligent women must accept and meet is how to keep the household well. We ought to aim at a high standard of health, physical, mental and moral, in our homes. To live contentedly in the midst of malefic germs is possible to-day only for the inhabitants of Labrador, who are scourged by the great white plague in their airless huts. We must insist upon currents of fresh air by night and by day, in the homes where we live and work and the chambers where we sleep. Ventilation is the commonplace theme with which we start our discussions in 1912."

From the Diary of General Sherman

"During the Civil War," said Mrs. Madison, "the army of General Sherman spent an inclement winter under canvas in North Carolina. The General relates in his diary that, although the men were sleeping in tents and the season was unusually cold, they had perfect immunity from coughs and colds, and were in magnificent health. When at another time they came into barracks and had the comforts to which they were accustomed when at home, sickness invaded their ranks and there was a record of fever, pneumonia and other ills, so that the hospital was crowded. I mention this to show the virtue of cold air as opposed to the enervation of germ-laden heated air."

A city grandmother, who was visiting one of the members, asked permission to relate an experience of her own. She looked about benignantly upon the younger women, declaring that she was sure she was the oldest person in the room. "I am getting to be the oldest woman wherever I go," she said, "and yet I often claim to be the youngest, for I have even health, a blithe heart and a happy life. When my first grandson was born, I envied no one in the world. My cup overflowed with bliss. I seemed to myself to walk on air when I thought of the dear little face in the cradle, and lifted my heart to heaven in thanksgiving that I had seen my son's son. If ever I shall hold my great-grandchildren in my arms, I am afraid that my pride will make me seem absurd to my juniors. The little fellow was less than two months old when he came near dying with pneumonia. All night long two physicians fought for his life. It was on a January night when the thermometer had fallen to zero. Finally one doctor went home, leaving the other to watch the child's expiring breath. The young parents were crushed with grief, and the nurse was in despair. I had read somewhere about the efficacy of outdoor air when other remedies failed. I do not know whether I thought of it then myself, or whether an angel whispered it in my ear, but I said, 'Doctor, if the baby is dying and there is nothing more that you can do, let me try what I can do.' I put on a long fur cloak and my arctics and wrapped my head in what was then called a 'cloud,' of soft, warm wool. Then I wrapped the baby up warmly, took him in my arms and went into a cold front room, where I opened all the windows, both top and bottom. I walked up and down before those windows for an hour and a half, and, to make a long story short, the baby began to get well. He is to-day a husky man in his twenties, famous in athletics and a college graduate, taking his share already in the world's work. This is my little story of what fresh air did for one child."

"We have no heating-plant in our house," said the next speaker, "and all winter long the temperature in the halls is chilly, and often it is freezing. I close

the rooms which we do not need, and we draw together in one or two, where we can manage to keep warm. Our bedrooms are pretty cold, so that we usually have to put hot-water bottles between the sheets before we retire. I don't know how it may be with the rest of you, but I think it cruel to let anyone start the night between icy-cold sheets. Often in the morning the water is frozen in the pitchers, and I have the children slip their feet into slumber-shoes, and, bundling their clothing as best they can, they run down in their bath-robes and dress by the kitchen fire. We have a big sunny kitchen that is always a delightful place in winter. It gets a sufficient amount of ventilation through the opening of the door at either end, and as my husband and the boys are always going out and in, though the kitchen is generally warm, it is never close. What I wish to ask of you is this: 'Ought I to open our bedroom windows in the morning when it is already as cold as all outdoors, to bring in more cold air; and do you think we would benefit by having open windows at night?'"

Change the Air in the House

There happened to be present a woman doctor. She, too, was a visitor who had been keenly interested in the club from the moment she had heard of its existence. She was on her feet in an instant. "If I may speak," she said, "I really think you ought. Cold air that stays in a house, without change and refreshment from outside, gets to be poisonous and heavy. The virtue is not in the cold, but in the freshness. Every sleeping-room should be ventilated at night from the top of the windows. In your climate, and in frigid weather, you need not set your windows wide open, but do let them down at least two or three inches. Try letting children sleep in outing flannel or wool as to pajamas and nightgowns, and tuck their feet into a folded wool blanket when they go to bed. As to dressing in the morning, it is an excellent plan to let them run quickly through the cold hall and manage that part of it in a warm room. In going through cold halls, it is a good precaution to have a jacket, sweater or cape at hand to be worn when leaving a fire. Never stand at the door in cold weather for a last chat with friends who are taking their leave. Leave-takings should be finished before one steps out into the cold."

"I have asked my husband to give the people a sermon on the subject of being comfortable in church," said the minister's wife, "but as he only laughs, and says that they would not endure anything so secular, I shall make my speech here. Women have a way of sitting through a church service in a warm church with their outside wraps on. They wear thick cloaks and furs and keep their hands in muffs for an hour and a half, and then they go out after the doxology and benediction and are struck in the face by cold blasts that pierce them to the bone. Three fourths of the winter colds, the attacks of rheumatism and pleurisy that we hear of in winter are due to the utter folly of good women who do not know enough to remove their wraps in church. I wish that all of you would unite in setting a new fashion in this line. We are in need of common sense as to church dress. All churches, by the way, are not well ventilated, although ours is. Judge Mainwaring keeps a thermometer in his pew, and my husband has one in the pulpit, and if people fall asleep during service, it is not because they are drowsy through poor ventilation."

"Mrs. Elderbury's story of the prevalence of consumption years ago," said Mrs. Howell, "impressed me deeply because I have similar cases in memory. The north wind sweeps down the leaves and lets in the sunshine in winter, but there are homes, some of them not so far from where we are sitting, which would be greatly improved by the thinning out of some of the beloved shade-trees. I know how hard it is to part with a tree that one loves. I always feel a thrill when I read the poem,

"Woodman, spare that tree.
Touch not a single bough;
In youth it sheltered me,
And I'll protect it now."

"The trees are the homes of the birds in summer, and they give us delight the year round, but a house that is too closely shielded from the rays of the sun is never a safe place for men, women and children to dwell in. I plead for plenty of sunshine, for the sun-bath daily. Fresh air and sunshine in combination are wonderful healers for body and mind."

"We need to cultivate courage," said the principal of the high school. "Our school-building is supposed to have a perfect system of ventilation, but I regret to say that I am compelled three or four times a day to set wide open every window and thoroughly air the rooms. I try, when doing so, to have the pupils go through callisthenic exercises, but some of them are dismayed notwithstanding this precaution, because they are in terror about drafts. Thousands of our fellow beings have the greatest horror of ever meeting a draft, which is often a friendly messenger, and they speak as if it were the deadliest foe. When city people come to the country from their steam-heated homes, they often complain that our houses are not sufficiently warm. We, of course, have steam-heat, hot-air furnaces and other advance agents of commercial and civilized comfort precisely as we have telephones, but our homes are separate from one another, and therefore not so warm as those which are closely built into city blocks. I tell my girls and boys to be afraid of nothing that is not wrong morally, and especially to be ashamed of fright about a little puff of outdoor air."

The hostess of the day begged pardon for an innovation, saying that she could not resist the temptation to give a New Year's spread at this initial meeting of the year. She had not consulted anyone, lest there might be a prohibition, but she had not often the privilege of entertaining so many friends at once, and so she had taken advantage of the season. When the club entered the dining-room, they found a feast prepared. There were turkey and tongue, and celery, pin-money pickles, hot biscuits and honey, coffee and crullers; and as many of the members had miles of snowy roads over which to drive, they did justice to the viands. Just before they parted the hostess repeated a quotation from a calendar for 1912: "Beautiful is the year in its coming, and in its going: most beautiful and blessed because it is the Year of Our Lord."

To My Readers

It will give me pleasure in this new year to receive personal letters from my friends. Every letter will be held in confidence. If anyone would like a reply by mail, a self-addressed and stamped envelope should be enclosed. Write in the care of FARM AND FIRESIDE.

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The Road to Happiness

A Story of the Common Lot

By Adelaide Stedman

Author of "Poor Relations," "Miracle," "Intellectual Miss Clarendon," Etc.

Part IV.—Chapter VIII.



HE nine days' wonder of the Taylor catastrophe with its ante-climax of the broken engagement died out. The high tide of newspaper notoriety and malicious gossip gradually receded in a cruel ebb, the consciousness of having been sent adrift by a great storm, then left stranded and forgotten. So Mrs. Taylor and Frances spent a slow, trial-filled month. They still remained at Caroline's, waiting, though each day had brought home more clearly the dismal fact that there was nothing for which to wait.

Mr. Taylor seemed to have disappeared into space, and in his wake had gone with the same terrifying suddenness money, home, friends.

Frances had long since given up all hope that Norman would return to her, and with each day the idea of sending for him had become more impossible. She never even heard of the attempted reconciliation, for the morning after Mr. Jordan's fateful call, in a mood of dismal hopelessness, she had returned Norman's gifts to him, and he, taking her action as a hint that she wished the whole affair definitely closed, had hastily telephoned Caroline to say nothing about his unfortunate visit. She had reluctantly promised, bitterly regretting that she had allowed Frances to escape her the evening before, but the girl had seemed so utterly weary and cast down that she had not had the heart to add to her worries that night. So the month had rolled around, while they just drifted in a sort of helpless inertia, accepting Caroline's hospitality, only vaguely conscious that some definite step had to be taken soon.

Contrary to all expectations, Jacob Jordan had not called again; but at the month's end came a letter from him which abruptly woke Frances to a realizing sense of the situation. He wrote:

DEAR LITTLE LADY—

I know just what you are thinking this moment. "I was sure he wouldn't give up his suit so easily," and you are quite right. My absenting myself merely seemed to me the most effective kind of wooing. Now the time has come to change my tactics, for a month ago your heart was in mourning for the past—and to-day—well, I believe that it's aching over the present. If I were ten years younger, I would fill pages in telling you the obvious, but as it is I can make myself clear in one line:

I love you, and I want to make you my wife. You are too proud to accept Miss Sandford's kindness much longer, yet you feel helpless because you have never been taught any practical accomplishments. You hesitate to accept my offer because you do not yet care for me, because you still consider yourself bound by your first love.

Under ordinary circumstances, I should feel that you ought to have about a year to overcome this idea, but the illusions of youth are expensive luxuries. Is this one worth the price you are going to pay?

My dear little lady, I am not writing this from any cruel desire to pain you—far from it. I am like the surgeon, who hurts to heal. I know life, and I want to spare you. I want to keep you just as you are, sincere, gay, fine; unspoiled by living the ghastly farce of genteel poverty. That is why I am urging you so, for you are going to marry me, the only question is one of date.

Of course, this letter will make you hate me temporarily; therefore, I will not call for two weeks. In the meantime, I hope you will enjoy the violets I am arranging to send you daily. Do be kind to them. They are not responsible for their giver.

Once more assuring you that I am yours to command, Believe me,

Most devotedly, JACOB JORDAN.

As he had prophesied, this epistle made Frances furious, and she took it to her mother with a certain secret satisfaction, for Mrs. Taylor had been beseeching her to marry Mr. Jordan with a nagging insistence that had almost driven her frantic. Now, she thought triumphantly, her mother would see what kind of a man he was, and stop her pleading.

Mrs. Taylor, however, after reading the letter, handed it back, saying in her most martyrlike tones, "Dear fellow, if I only could let him know how I have championed his cause." As usual, she was lying on a couch, and she rose on one elbow to go on more vehemently: "You are positively insane to refuse such a clever, substantial man!"

"He's insulting!" Frances gasped in amazement at her mother's complaisance. "How dared he write me such a letter?"

"What's wrong with it?"

The girl grasped the closely written sheet, and read it over in haste to prove how humiliating its contents were, but the missive was cleverly composed; she could find not a single line or phrase to justify her feeling in the least.

"I detest him!" she cried at last, scarlet with shame and anger. "I don't know why, but I detest him!"

"He has wounded your false pride, and you resent it, instead of being thankful that he wants to help you," Mrs. Taylor remarked virtuously. "You thought that Norman was such a paragon! What has he done for us in our trouble? If he had had an ounce of real feeling, he would have come to our aid!"

"What did we deserve from him?" her daughter retorted hotly, her eyes filling with tears. "I—I love him yet, so how can you ask me to marry Jacob Jordan? How can you, Mother?"

Mrs. Taylor sighed, and lay back again. "May I ask what you are going to do?" she questioned sarcastically.

"I suppose you realize that we can't live on sentiment. Since you reject my plans for your future so scornfully, what are yours?"

Frances shrank from the burden of responsibility her mother so deftly transferred to her shoulders. "I—haven't any," she murmured, walking toward the door; "but other girls earn their living—and I guess I can."

Mrs. Taylor began to weep. In her entirely unconscious selfishness, she honestly believed herself the injured party.

"After all the sacrifices I've made for you, how can you even talk of throwing yourself away?"

Frances fled, sobbing. Suddenly she understood how her father had been driven into debt and wrong-doing.

For the rest of the morning she sat in her room thinking dimly. What could she do?

Finally, just before noon, an idea seemed to strike her. Running to her trunks, she unearthed a last season's black felt hat, a bolt of black satin ribbon and two black quills. Then, feverishly she set to work. Pricked fingers, fatigue, nothing mattered. With infinite pains

whole expression changed, until the watching girl shrank back, even as the little apprentice did, before her furious look.

For the first time in her life, Frances was seeing the world from the suppliant's point of view, and the sight bewildered her until she felt like a bit of fragile French china, which, broken by accident, suddenly finds itself relegated to the utilitarian uses of the kitchen.

Her timidity increasing every moment, she left the avenue and turned down one of the busy side-streets, finally halting before a tiny shop which displayed several rather unpretentious little hats in the window. Her own looked smart again in comparison, and with a faint renewal of confidence she entered, only to feel all of her terror return as a calm young girl walked toward her. Only a sort of desperate courage kept her rooted to the spot. What did one say when one desired a position? she wondered, her face so white and miserable that the saleswoman exclaimed at sight of it.

"Are you ill, Miss?"

"Oh, no!" Frances murmured, nevertheless sinking shakily into a proffered chair.

The girl regarded her doubtfully while she recovered herself, then queried in a tone of ingratiating respect:

"May I show you some hats?"

Frances shook her head mutely, then managed to say, "I—I came to look for a position in the work-room!"

"Oh!" In the exclamation all of the saleswoman's respectful aloofness vanished, and she said familiarly:

"I thought you were a swell, you looked so grand. Where have you been working?"

"No place!"

The girl's curiosity heightened. "I thought you didn't know much about the business, coming to this entrance!" she laughed. "I'll call Miss Stevens. I think she needs a new hand."

"Just a moment," Frances begged. "I don't know—could I—do you think that I know enough to get—a position? I—I trimmed this hat."

"It's very pretty," the girl answered encouragingly, touched by the wistful anxiety in the upturned face. "You won't have any trouble about getting a place."

A little thrill of joy trembled in her voice as Frances questioned:

"How much should I be paid, do you think?"

The girl hesitated. Her instinct told her that some tragedy lay behind this little scene, and that this young woman with her soft, cultured voice and air of refinement belonged to the class in which the women were never breadwinners, so she made the sum as large as she dared.

"Oh, about ten or twelve dollars in the beginning—"

"A—day?"

"No—a week."

"So little!" Frances's dismay showed clearly.

"Little!" The girl was amazed. She had worked up from a salary of six dollars a week, and the sum seemed large to her.

Frances rose wearily, her eyes downcast, and suddenly her shoes caught her attention. They alone had cost ten dollars. She laughed hysterically. "I—I'll have to earn more than that!"

The girl shook her head. "Then you'll have to be pretty smart. I'm getting fifteen dollars now, but I've been here six years. It doesn't seem little to me."

Frances tried to think of some polite phrase, but no words would come. She could only earn ten or twelve dollars a week! She had never before actually realized that people could live on that sum.

With a murmur of apology, she left the shop. Once more she hurried along the avenue as though trying to leave her fears behind her. What they were was evident, for she half sobbed to herself over and over again, "I won't marry him! I won't! I won't!"

Chapter IX.

WHEN Frances came home, she was positively ill from worry and nervous excitement, and in her trouble she instinctively went to Caroline, the only refuge she had ever known.

"I just don't know what to do!" the girl sighed bitterly, after narrating the afternoon's experience and its cause. "Affairs seem to get worse and worse every day!" Suddenly her voice broke, and she cried dismally, "I won't marry Jacob Jordan! I'll do anything, absolutely anything, rather than that! Can't you think of some way I can earn my living, Caroline?"

"I have thought of something," Miss Sandford admitted slowly. "I'd insist upon keeping you both with me, but I know that, much as I should love it, you and your mother would be very miserable living among your old friends on such a basis!"

"Oh no, we couldn't stay," Frances exclaimed hastily, "though you are a dear to want us. Tell me your plan, Caroline."

"Well," Miss Sandford began, "I was thinking that your father owned a big house on the west side which I saw advertised for 'foreclosure sale' a day or two ago."

"But we can't buy a house!" Frances broke in.

"I will buy it," Caroline smiled.

Tears rushed into the girl's eyes. "We couldn't accept such generosity."

"Nonsense! It will be a good investment. You can pay me rent every month." [CONTINUED ON PAGE 29]



"Frances tried to think of some polite phrase, but no words would come."

she trimmed the hat. At last the deed was done. She ran to a mirror, and poised the creation on her head. For a long minute she examined it critically, then exclaimed in incredulous, incoherent joy: "It's pretty! It is pretty! I'm going to do it!"

At luncheon she was very quiet, and both Caroline and Mrs. Taylor wondered at her flushed cheeks and sparkling eyes. However, she made no explanations, and slipped away as soon as possible.

She went straight down-town, her pretty lips set in the firmest and most resolute line of which their curves permitted. Her goal was Madame Estelle's millinery establishment, her favorite hat-shop ever since she was a little girl, for she had resolved to try to obtain a position there. However, to make a brave resolution and to carry it out are two quite different things. Frances had always loved the lavish elegance of Madame Estelle's, but to-day, as she entered the brilliant room, its gorgeousness suddenly appalled her. Her little hat, when reflected in the countless mirrors, seemed to lose all its smartness! Her services could not possibly be needed here. She saw Miss Genevieve, one of the stately salesladies, coming toward her, and seized with sudden panic she turned about, and fled from the shop, horribly conscious that she was making herself conspicuous.

For several blocks she was half blinded by the tears of vexation she could not keep from her eyes. Then she stopped before another gorgeous hat-shop, but this time she pretended to admire the window display while endeavoring to get a view of the interior.

She could see a gracious-looking woman, her face all smiles and mildness, waiting on a customer. The purchaser walked away to examine another hat, and as the woman turned to follow her, a young apprentice, not more than sixteen, in replacing some veils in a drawer, caught a fold of her gown. In a flash, her



Every-Day Religion

By Dr. John E. Bradley

EVERY-DAY religion helps us in our darker hours. If you are tired and worried, you need the comfort and calm which the assurance of divine love and care will bring. Cease thinking of your burdens and annoyances and let your thoughts rise in pleasanter and strength-giving themes. With rest will come wisdom and skill. The difficulties which perplex you now will vanish before the clearer mind and stronger faith that He will send. If disappointment and discouragement have overtaken you, look aloft, and see the bow of promise still shining. We gain peace and strength, not by complaining or dwelling upon our losses, but by getting a different view and giving the mind opportunity to work under more favorable conditions. There is always a brighter side if we will find it. Why grope in the dark? Doctor Johnson said that the habit of looking at the best side of things was worth more than a thousand pounds a year in a man.

Wonderful is the power of love in the home. How it changes hard work into happy service—transforming a dull routine into a ceaseless joy. We want a religion which will brighten life and raise it above the humdrum by giving it higher motives and interests. We want a religion which will not let us grow impatient or lose our temper, which will make us thoughtful and generous and kind, which will help us to remember the burdens and anxieties and crosses our dear ones bear. The mainspring of such a religion must be love.

Such a religion brings success. This cannot be its motive, but it is its natural result. People prefer to deal with one who is honest and reliable. They like to do business with one who is kind and friendly. They follow the example and leadership of those they trust. Little economies build up great fortunes; little courtesies multiply friends; little habits make up character. People cannot afford to forget their engagements or to neglect to pay little bills.

It Gives Power

And what strength such religion gives. It enables the frail and gentle mother to watch night and day by the bedside of her sick child. It gives her courage and strength to combat the raging fever and carry her little one safely past the dreaded crisis. It helps the patient father in his daily toil, and affords him motives for larger effort and enterprise. It makes parents wise to guide the unfolding lives of their children, and it binds the family in beautiful coöperation and harmony.

In the outside world, in the life that men live with one another, the great need everywhere is the pervasive religion of love. It smooths rough places, makes work easier, and doubles its results. Its magic touch helps men to forget their differences, and transforms enemies into friends. How quickly would love, good will, the Golden Rule, adjust all the problems of labor and capital! It would hush sharp contention, settle neighborhood feuds, solve public issues, and lift political struggles out of the dark and mud-raking methods into which they so often fall.

Character Seen in Faces

Watch the faces of the people you meet on the street or in a car. A life story is being written upon each of them. Many

of these records you can already read. On one face, cold selfishness and indifference.

On the coarse features of another, dissipation and sensuality are only too plainly seen, while the face of still another is drawn into an unhappy scowl by fret and worry. Happy is the contrast afforded by the peaceful expression and friendly smile on other countenances which tell of conquest over self and good will to all.

In the olden time men tried to make their lives perfect by keeping the Ten Commandments and the hundred and ten other commandments which had been manufactured out of them. They paid tithes on mint and anise and cummin, went regularly to the synagogue, gave freely for the temple service, and prayed publicly and often. But when the Master came, He said, "I show you a more simple way."

And when He gave men the eleventh commandment, it put a new spirit into their lives. By keeping one commandment they keep all. Love fulfils the law. This is every-day religion.

When the Light is Dim

By Sidney Morris

TO-NIGHT I saw an odd thing! Something happened to the electric-light system of one portion of the town.

I was stopping at a hotel. As I walked into the lobby I could barely discern men sitting, like ghosts, sadly in the wan light.

"What's wrong?" asked I.

"Oh, something the matter with the electric-light," he answered.

"Well, I knew I'd be using that candle on my dressing-table yet," I said.

"Isn't it a godsend it's there?" said he thankfully.

I walked through vast halls, dimly lit by one or two brave candles. I peered into the huge writing-room, or it seemed huge, and saw three traveling men, I, too, am one, soberly penning messages "Home," "To the Manager," or "To Her" by the faint gleams of three half-burnt candles.

And there, too, the Old and the New grasped hands, for a successful business man was dictating a letter to the stenographer, by the aid of a lone tallow candle.

In the dining-room all the women looked interesting; all the men, brave and noble. And I wondered if Shakespeare was joking when he wrote:

"How far that little candle throws its beams!" They didn't seem to go very far, according to my way of thinking.

By candle-light these halls seem vastly long and wide. Men seem nobler, braver, better than I know some of them to be by daylight, or when they think no one's looking. Women—and I say it in all kindness to them; my own dear mother is a woman—look fairer, sweeter, nay, even purer, more soulful, by candle-light than in the glare of day or in the arc-light's fierce ray. All things improve because they're but half seen.

And that's true of life! Aren't the half facts the pretty things? Don't we hug a delusion and lose out for a lie far oftener than for the truth? We can only see facts by broad daylight. And, sometimes, they're not such pretty things as the half-truths. But they're worth more! Who would go back to a delusion who has once learned a truth? Who would trade a fact for a fancy?

In more places than in hotels we have given up candle-light.

The House of Hate

By Arthur Wallace Peach

He built a House of Hate, strong-walled and gray,
Around which gloomy shadows ever lay.

He thought therein his enemy to hide
Till in the world all love of him had died.

But as he planned amid the building's gloom,
He heard the great gates close—and knew his doom!

He dwells alone within their endless night,
Shunned by all men and loathsome in their sight,

While outward on the sun-glad ways of earth
He hears the sounds of fellowship and mirth.

On the Farm

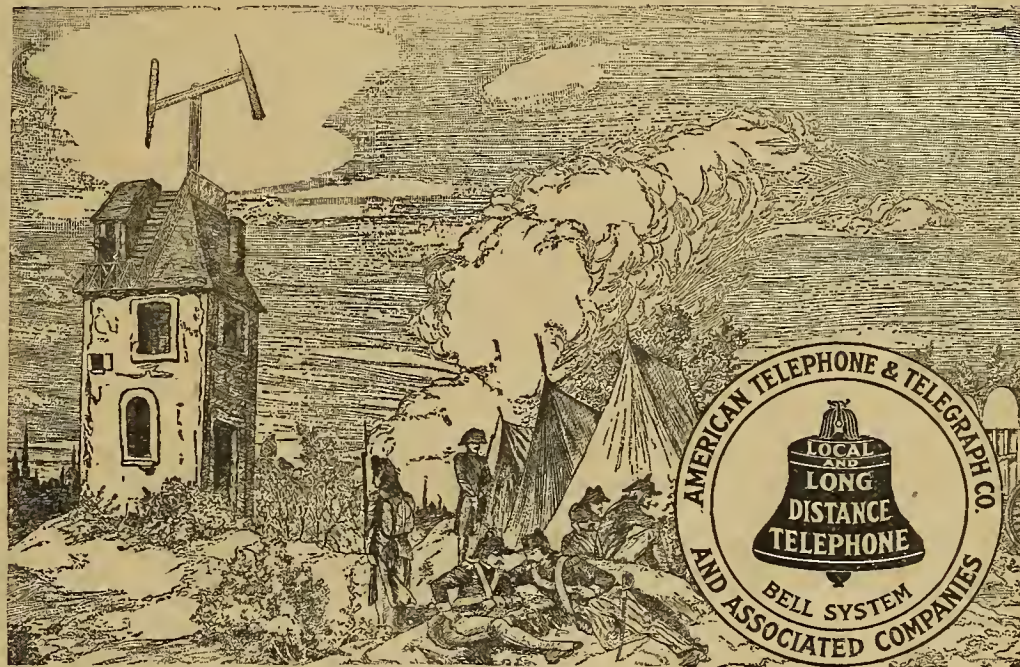
Old Dutch Cleanser

is of greatest value. Besides its many household uses, it is just the thing for cleaning and scouring milk pails, the cream separator, the churn and everything connected with the dairy. Makes everything clean, sweet, sanitary.

Many uses and
full directions on large
Sifter Can 10c



Chases Dirt



From an old print in La Telegraphe Historique.

Napoleon's Visual Telegraph

The First Long Distance System

Indians sent messages by means of signal fires, but Napoleon established the first permanent system for rapid communication.

In place of the slow and unreliable service of couriers, he built lines of towers extending to the French frontiers and sent messages from tower to tower by means of the visual telegraph.

This device was invented in 1793 by Claude Chappe. It was a semaphore. The letters and words were indicated by the position of the wooden arms; and the messages were received and relayed at the next tower, perhaps a dozen miles away.

Compared to the Bell Telephone system of to-day the visual tele-

graph system of Napoleon's time seems a crude makeshift. It could not be used at night nor in thick weather. It was expensive in construction and operation, considering that it was maintained solely for military purposes.

Yet it was a great step ahead, because it made possible the transmission of messages to distant points without the use of the human messenger.

It blazed the way for the Universal Telephone service of the Bell system which provides personal intercommunication for 90,000,000 people and is indispensable for the industrial, commercial and social progress of the Nation.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

La Follette's Turning Point

"BOB" La Follette tells an exciting story in the January **AMERICAN MAGAZINE**. It is the story of an experience he had with a man who came at him with a pocketbook in one hand and a roll of bills in the other. This man was high in business and politics and power, used to having his own way, and the proposition he made looked to "Bob" like an attempt at bribery.

This experience formed the crisis in La Follette's life. It opened his eyes. He was 36 years old at the time, and from that day forth concentrated on a fight which he has kept up ever since. He was plunged at once into conflicts of great importance—all of which he is going to tell about in forthcoming numbers of **THE AMERICAN MAGAZINE**.

At the beginning of the year 1912 there is no reading of more interest to **FARM AND FIRESIDE** families than "Bob" La Follette's Autobiography, in which from month to month the Wisconsin Senator will tell the story of his own adventures, and report the political movements of the last quarter of a century. These articles are of great educational value and at the same time highly entertaining.

15 cents on all news-stands
\$1.50 by the year

The American Magazine

Published by the Publishers of **FARM AND FIRESIDE**

Springfield, Ohio

(or 381 Fourth Avenue, New York City)

A Paper-Bag Discussion And a Dinner to Illustrate It



FIRST of all, please allow me to introduce myself. Mr. Herbert Quick, our Editor, has done me the honor to place me in his corps of assistant editors. My realm is to be the Fireside portion of **FARM AND FIRESIDE**. Being women, we naturally consider it quite the most important part of the paper, and no wonder. Haven't the men called us their "better halves" for so long that we've begun to believe it? And, although the Fireside end of the paper is for everybody, we consider it just a bit more our property than anyone else's.

When this paper-bag cooking furore started, first in England and New Zealand, and then in America, Mr. Quick said, "Look here! Perhaps there's something in this that will help to lighten the burdens of the busy housewife. Go and find out about it!" And the rest of this article is to be devoted to what I discovered.

Nicholas Soyer, chef of the Brooks Club, London, discovered that the cooking of food in a paper bag did various things to it, which differed from stew-pan results. For instance: there was no odor of cooking in the kitchen; there was a better flavor in the article cooked, and there were no soiled pans to be washed and scraped afterward. A paper company in the United States began the manufacture of bags for cooking purposes. So, with a supply of these and one of Mr. Soyer's cook-books, it was an easy matter to experiment.

Another idea went with the thought of labor-saving in the cleaning of pots and pans. Why not do away with dish-washing? So I priced paper and wooden dishes, paper napkins, doilies and table-cloths. The result of all this talking, discussing, writing, reading and experimenting was a dinner. And when I've told you about this dinner and what I discovered, perhaps you, yourself, will want to try some experiments in paper. Better yet, perhaps you'll write and tell me what you discover. And so, by the help of all of us, we may find a way to lighten some of our kitchen and dining-room labors.

The dinner we served consisted of a number of courses, so that we might try out a number of things at the same meal. A paper doily under each wooden plate was the only table covering.

The knives, forks and spoons were the only eating implements to be washed. The drinking-cups were made of paraffined paper, and the butter-dishes were paper with a paraffined lining.

The first course consisted of oyster cocktails. They were served in paper cups on wooden plates, which were covered with doilies. Raw oysters, covered with a home-made cocktail sauce of catsup, Worcestershire sauce and horseradish, composed this dish. This cost us no cooking, nor did the salted crackers, olives and celery which accompanied the oysters.

The next course was bouillon. A tiny cube of a solidified beef extract was put in each of the paraffin cups, and hot water poured on it. The bouillon was delicious. Crackers accompanied it. As yet, no cooking was needed for the feast, you see.

Then came a lovely big whitefish and its roe. A large-sized cooking-bag of paper was buttered inside by means of a brush designed especially for such work. The fish had been boned by the dealer. The fins were removed, the roe placed inside and the fish was salted, peppered and then pushed into the bag. A half-teacupful of milk and fine bread-crumbs were poured into the bag, over the fish. This bag, with the fish in it, was then slipped into a second bag, the opening of both bags turned back in a fold, and pinned with ordinary pins, and then slipped into the oven.

That fish was the best ever! You never tasted such fish, except in your dreams! It was beautifully cooked, too. Served on an oblong lid of a grape-basket, which had been previously covered with a paper doily, it was a sight for hunger to behold—and then to stow away.

Saratoga chips, bought at the grocer's, sections of lemon and beautifully baked brown bread were served with the fish. The latter, owing to its peculiar make-up, which precluded a paper-bag experiment, was steamed in a tin.

The chicken was next. Two small roasters were stuffed and tied as required by the usual method of baking. Both were slipped into a bag, and this into a second, and then into a third, until the two chickens were covered by three thicknesses of bag. Into another bag went white potatoes, salt, pepper and a lump of butter. Another bag held the contents of two cans of asparagus,

butter, salt and pepper. Each of the eatables in this course was as good, if not a little bit better, than the usual roast chicken, asparagus and potatoes of our old-fashioned cooking methods.

Next we had lettuce salad, with small pieces of grape-fruit. This was served on smaller wooden plates than those used for the chicken. There was a choice of dressings: French or mayonnaise. Neither of these was cooked.

The last course was ice-cream, bought of a confectioner, and served in paper boxes, like those in which the youngsters bring home five cents' worth of ice-cream. Delicious nut cookies, baked on sheets of paper, were served with this.

And, at the close of the dinner, there was no dish-washing to do, except as required by the knives, forks and spoons.

Of course, such a dinner is much too long and tedious for ordinary and daily use. Our idea was to exemplify, at one meal, several of the numerous uses to which wood and paper may be put, as labor-saving devices in kitchen and dining-room.

There is this to say about paper-bag cooking. It's hard, in that all the traditions of the kitchen have to be forgotten and a new set of rules learned. A girl giggled aloud when I began trying it, because I put the contents of a can of corn, a lump of butter, some salt, pepper and a bit of flour in a paper bag. The entire proceeding seemed ridiculous to one who had learned nothing more than that the corn should be put in the granite stew-pan, and flavored to taste. In paper-bag cooking, all the flavoring has to be done before the cooking begins!

But the use of paper and wood on the dining-table, and of paper bags in the kitchen oven, will prove, sooner or later, a great boon to the housewife who has no kitchen help. At least, so I am led to believe by these experiments.

The paper doilies come in Mexican drawn-work patterns and are very pretty. I have estimated that the setting of a table for six persons, for dinner, would cost six cents for paper and wood things, and all could be burned after the meal.

The paper bags come in three different sizes in the same package. Each package contains forty bags and costs twenty-

five cents. At such a rate, the task of scraping and washing pots and pans might be greatly lessened, if not done away with entirely, at a cost of from two to four cents per day.

None of us likes to serve a meal unless the table arrangements are both clean and good to look at. Paper answers both requirements. In fact, your paper napery never has to do a second time, as do the ordinary household linens. Just to convince your eyes that a table set in paper is a slightly object, the table is pictured on this page.

This is only the beginning of what will be, I hope, a general discussion of the use of paper in lessening the



How the table looked when set for dinner

work. I shall be glad to hear from any of you, who have tried paper-bag cooking; and I may print some of your letters.

It is our duty to lessen the amount of work necessary to healthy, happy, sanitary homes. Labor-saving devices are the corner-stones of modern industry. The outdoor work has been revolutionized by easier and better methods. In the household we too must adopt methods that will save us the "from sun to sun," and give us an eight-hour working day, into which we can put some recreation, some study, some fun, some time to become acquainted with our children and friends.

Is paper to be one of the assistants in accomplishing this? Will it be the medium to lift some of the burdens from our busy housewives? Will it help to banish the slavery to dishpan and washboard, of which we are so grievously complaining? What do you think about it? Try it, and then tell us what you think.

Coán Josaphare

EDITOR'S NOTE—Mrs. Josaphare will answer questions covering prices and dealers in paper and wooden utensils. Address Mrs. Coán Josaphare, Paper Inquiry Department, **FARM AND FIRESIDE**, Springfield, Ohio.

The Winter Vacation By Hilda Richmond

FOR many years we considered the summer the proper time for a vacation, and though farm work was pressing and the weather uncomfortable we managed to get away for a few days to new localities. These little outings were much enjoyed, but the hurry to get ready, the care of things while we were away and the settling down on our return made the trip something of a nuisance after all. Usually something had to be neglected, and often we found the hot weather away from home much more uncomfortable than at home, particularly if we wanted to visit a city. So after due consideration we took winter as the time for the holiday. We can stay longer for less money than in summer and have a better time. What more could farmers ask?

Once we had an enjoyable month in Florida, and that cut the winter so short that it hardly seemed like winter at all. We took an unfrequented path through the state, and found prices low, food good and abundant, people cordial and the opportunity to study farming conditions the best in the world. Around the big resorts much money is needed, but in the little

out-of-the-way places unspoiled by the trail of the tourist things are different, and the visit can be made surprisingly cheap.

For a shorter period one winter we enjoyed the national capital, and surely Washington is an enjoyable place in cold weather. Though midwinter, it hardly seemed like late November, and the grass was as green as with us in October. We thoroughly "did" the public buildings, and explored out-of-the-way nooks and corners we had read about. It was not uncomfortable on account of cold or wet, and we enjoyed every minute of the time, living modestly and well.

Another vacation trip took us leisurely through Kentucky, Tennessee, Mississippi and Alabama, winding up with the Mardi Gras in New Orleans, which we thought most beautiful. The wonders of that great commercial city, the signs of the awakening in the New South, the great sugar plantations—all the wonders of the South unfolded before our eyes, and the time was ideal to look into conditions regarding labor and soil.

The winter vacation is a good idea, and you can best prove this by experiment. Begin it this winter, and prove my words.

Attractive Fashions

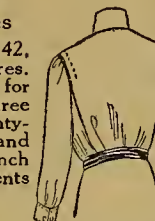
Patterns to Help Out the Winter Wardrobe

Designs by
Grace Margaret Gould



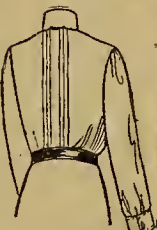
No. 1862—Tailor-Made
Shirt-Waist in Two Styles

Pattern cut for 32, 34, 36, 38, 40, 42, 44 and 46 inch bust measures. Quantity of material required for medium size, or 36-inch bust, three and three-fourths yards of twenty-four-inch material, or two and one-fourth yards of thirty-six-inch material. Price of pattern is ten cents



No. 1887—Rever Waist with Frill

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36-inch bust, four yards of twenty-seven-inch material, or two and three-eighths yards of thirty-six-inch material, with one yard of a contrasting material for the frill. The price of this waist pattern is only ten cents



No. 1719—Tucked
Tailored Shirt-Waist

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36-inch bust, four yards of twenty-four-inch material, or two and one-half yards of thirty-six-inch material. This is a very good pattern for a tucked waist. The price of this pattern is only ten cents



No. 1815—Low-Neck Shirt-Waist

Cut for 32, 34, 36, 38, 40, 42, 44 and 46 inch bust measures. Quantity of material required for medium size, or 36-inch bust, three yards of twenty-four-inch material, or two yards of thirty-six-inch material, with seven eighths of a yard of twenty-four-inch material for the dainty fichu collar. Price of this pattern is ten cents

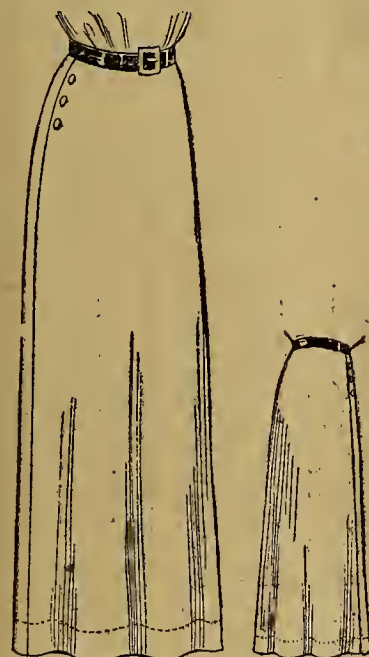


No. 1747—Plain Tailored
Shirt-Waist

Pattern cut for 32, 34, 36, 38, 40, 42, 44 and 46 inch bust measures. Material for 36-inch bust, three and one-half yards of twenty-seven-inch material, or two yards of thirty-six-inch material. Price of this plain shirt-waist pattern is ten cents

AT THIS time of the year it is usually necessary to freshen up one's wardrobe a bit by making over the old costumes or by adding one or two new ones to their number. A separate skirt or a shirt-waist will do much to help along one's other clothes, and for this reason there are a number of shirt-waist and separate skirt designs shown on this page. They are all practical, simple designs, yet each one is distinctive and smart in style, and for every design illustrated we furnish a practical, easy-to-use WOMAN'S HOME COMPANION pattern.

IT is an easy matter these days for women living in the western part of the country to get WOMAN'S HOME COMPANION patterns. Orders sent to the Pattern Department, FARM AND FIRESIDE, 1538 California Street, Denver, Colorado, can be filled in a surprisingly short time, thus lessening considerably the dress problems of women living in the Far West who depend on WOMAN'S HOME COMPANION patterns in making their clothes. The catalogue of WOMAN'S HOME COMPANION patterns may also be ordered from this depot.



No. 1740—Two-Piece
Buttoned Skirt

Cut for 22, 24, 26, 28 and 30 inch waist measures. Material required for medium size, or 26-inch waist, four yards of twenty-seven-inch material. Price of pattern, ten cents. A skirt in this style can be made very easily and quickly



No. 1722—Blouse with Shawl
Collar

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. The price of this pattern is only ten cents

No. 1723—Skirt with Band-
Trimmed Tunic

Pattern cut for 22, 24, 26, 28 and 30 inch waist measures. Length of skirt, 40 inches. Pattern, ten cents. This dress would be stylish made of blue serge and trimmed with black silk. The yoke may be made of white lace



No. 1930—Combination Princess Corset-
Cover and Petticoat

Cut for 32, 34, 36, 38, 40, 42, 44, 46 and 48 inch bust measures. Material for 36-inch bust, five yards of twenty-two-inch material, or two and five-eighths yards of thirty-six-inch material. When the ruffles are omitted, one yard less of twenty-two-inch material, or five eighths of a yard less of thirty-six-inch material would be required, and three and one-half yards of lace or embroidery would be needed for frills. Price of pattern, ten cents



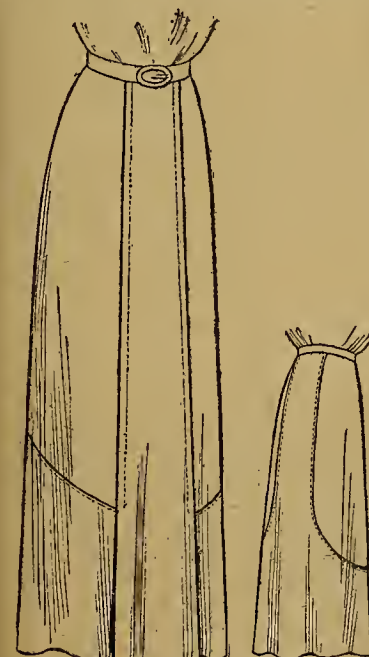
No. 1823—Housework Apron
with Bib

Pattern cut for 22, 26 and 30 inch waist measures—small, medium and large. Material for medium size, or 26-inch waist, four and five-eighths yards of twenty-four-inch material, or four yards of thirty-six-inch material, with an additional three eighths of a yard when ruffle is used. The price of this pattern is only ten cents. This is an especially good apron-pattern to own, as two entirely different but very practical aprons can be made with it, one with bib and the other without



No. 1822—Plain Six-Gored Skirt

Pattern cut for 22, 24, 26, 28, 30, 32 and 34 inch waist measures. Length, 41 inches. Quantity of material required for 26-inch waist, four yards of thirty-six-inch material. The price of this skirt pattern is only ten cents



No. 1861—Panel Skirt

Cut for 22, 24, 26 and 28 inch waist measures. Quantity of material required for medium size, five and one-half yards of thirty-six-inch material. The price of this pattern is only ten cents. This is a good model for either a separate skirt or for the skirt of a silk dress



Woman's Home Companion Patterns

OF COURSE, you want to have your clothes stylish and good-looking, even if they are simple and you can have but few of them. For this reason you should use the WOMAN'S HOME COMPANION patterns, because they are the ones in which simplicity is cleverly combined with style. They are inexpensive patterns, costing but ten cents each, and they are easy-to-use patterns, as they are accurately cut and clearly lettered and notched. They may be ordered from the nearest of the three following pattern-depots: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.

Our Special Premium Offer

To any FARM AND FIRESIDE reader who sends us one new subscription to FARM AND FIRESIDE, at the special club price of 35 cents, we will give as a premium one WOMAN'S HOME COMPANION pattern. Send the subscription to FARM AND FIRESIDE, Springfield, Ohio.



No. 1864—Yoke Skirt

Cut for 22, 24, 26, 28 and 30 inch waist measures. Material for 26-inch waist, seven yards of twenty-two-inch material, or four and one-half yards of thirty-six-inch material. Pattern, ten cents. This design offers a suggestion for remodeling a skirt that has become worn over the hips

Here is FARM AND FIRESIDE'S Famous Annual Offer of Rose-Bushes

And Other Beautiful Flower Collections

These are the greatest Flower Collections that we have ever been able to get for our readers. These beautiful plants cannot be surpassed. They are the finest obtainable, and the FARM AND FIRESIDE Flower Collections have been famous for a good many years. The Collections that we have for our subscribers this year have been grown especially for our people by one of the largest florists in America. No real lover of beautiful flowers can afford to miss our offers this year.

Guaranteed to All Bloom During 1912

Six Beautiful Rose-Bushes

Order as Collection No. 101

This collection of roses is particularly famous for size, beauty and brilliancy of color. They will bloom freely, flowering not only once but all summer through. Think of getting six superb ever-blooming roses that will grow into a bower of beauty this summer.

Climbing Meteor Rose

This is the ideal of all red climbing roses. In brightness of color it has no equal. It has been called a perpetual blooming, climbing General Jacqueminot. It is a full and persistent bloomer and will make a growth of ten to fifteen feet in a season.

Ever-Blooming Rose—Killarney

This is a very beautiful hybrid tea rose. The color is an exquisite shade of deep shell pink, lightened with a soft silvery pink. The base of the petals is silvery white, the buds are long and beautifully formed. It is free in growth, strong heavy sheets which are covered with buds. It is the greatest favorite of winter flowers.

Helen Gould

This is the most beautiful rose for general planting ever introduced in America. It is the strongest growing, freest blooming and largest flowering and hardest rose in existence. The buds are beautifully made, long and pointed.

Bridesmaid

The most popular pink tea rose. Thousands of this variety are grown every year for cut flowers, and it is also very desirable for summer bedding out of doors. It is a delightful shade of bright pink, with beautiful firm foliage.

Maman Cochet

The queen of all garden roses with color of rich clear tint, such beauty as is possessed by this variety is well nigh marvelous. The buds are beautifully formed, large, elegantly pointed. The flowers are extra large and perfectly double.

Etoile De Lyon

This magnificent tea rose has proved to be perfectly hardy. The flowers are very large, double, full and deliciously fragrant. The color is a beautiful chromo-yellow deepening at center to pure golden yellow. Is the handsomest of all yellow garden roses.

Guarantee

All the plants will be large, healthy and well rooted, and will bloom the coming season. We guarantee them to be exactly as described, to arrive in perfect condition and to give entire satisfaction, or your money refunded.

This is a part view of the Climbing Meteor Rose in full bloom.

Four Other Great Collections

In all we have five distinct and separate big Flower Collections for our readers. Each Collection will be unrivalled in its particular kind of plant.

Six Magnificent Chrysanthemums

Order as No. 102

The chrysanthemum is the prettiest and most valuable late autumn and winter flower. The big Collection consists of six large flowering Japanese varieties, all different colors, the very finest and largest chrysanthemums obtainable. Here is a list of the plants you will receive: **Black Hawk; Estelle**, a handsome pure white chrysanthemum; **Millicent Richardson**, a beautiful rose violet; **Colonel D. Appleton**, soft creamy yellow; **Percy Plumridge**, very large Japanese variety; **Pacific Supreme**, lavender, pearl shading. These plants ought to be in the home of every one of our readers.

Four Elegant Ferns

Order as No. 103

Of all plants for interior decorations, ferns are the favorite. This Collection consists of the leading varieties, chosen and arranged by a great florist who has made a specialty of ferns for many years. This collection consists of the four leading varieties: **Boston Sword Fern; Plumosus Nanus; Nephrolepis Whitmani; Sprengeri**. This beautiful collection will brighten and ornament any home in the land.

Five Beautiful Carnations

Order as No. 109

The carnation is unrivalled for rich refreshing fragrance, diversity of color and beauty of outline. Next to the rose, carnations are the favorite flower of the people. This Collection contains the following varieties of these exquisite flowers: **Prosperity; Rose Pink Enchantress; Red Sport; Harlowarden; Lady Bountiful**. What could be more delightful than to have your garden and your home filled with the all-pervading fragrance of this collection.

Six Lovely Gladioli

Order as No. 438

The Gladiolus is the most attractive of all summer flowering bulbs. This plant gives a succession of blossoms from July to November. By cutting the spikes when two or three of the lower flowers are open and placing them in water, the entire spike will open in the most beautiful manner. Set the bulbs from 6 to 9 inches apart. Plant from the middle of April to June first.

Cultural Directions

Collections must be ordered entire. Accompanying each lot of plants are full directions for planting, care, etc. Please state in what month you prefer to have your collection reach you.

Our Big Flower Offer

Good Only Until January 20th

Offer No. 1

We will send this Big Rose Collection or any Flower Collection described on this page, all charges prepaid, to every reader who sends us \$1.00 for a three-years' subscription to FARM AND FIRESIDE. **78 Numbers.**

Offer No. 2

We will send this Big Rose Collection or any Flower Collection described on this page, all charges prepaid, to every reader who sends us 75c for a two-years' subscription to FARM AND FIRESIDE. **52 Numbers.**

Offer No. 3

We will send this Big Rose Collection or any Flower Collection described on this page, all charges prepaid, to every reader who sends us 50c for a one-year's subscription to FARM AND FIRESIDE. **26 Numbers.**

Club-Raiser Special

Any club-raiser who secures only two subscriptions to FARM AND FIRESIDE at 35c each will be rewarded with this Rose Collection or any Flower Collection described on this page. An additional collection will be awarded for each additional yearly subscription at 35c each. One of the subscriptions may belong to the sender.

This Offer is Positively Limited

Send Your Order Before January 20th

Send All Orders to FARM AND FIRESIDE, Springfield, Ohio

Here is a view of the five other Rose-Bushes in our Big Rose-Bush Collection.

The Housewife's Letter-Box

Do You Need Help?

Have you been looking for a special recipe for years? Do you need any information on household matters? And do you meet with little problems in the home that you wish someone would solve for you—someone who has had a little more experience than you? Then, why not make use of YOUR OWN department and ask the questions which have been troubling you? This department has proved that the spirit of helpfulness is abroad in the land, especially among the women of the farm. That our readers have the mutual desire to help one another is evidenced by the large and prompt response we have had to the questions which are printed here monthly. There is no payment made for contributions to these columns. All answers and inquiries should be addressed to "The Housewife's Letter-Box," care of Farm and Fireside, Springfield, Ohio.

If an immediate answer is desired, it will be sent, provided a two-cent stamp is enclosed.

Questions Asked

Will someone please tell me—

How to can horseradish?

Mrs. O. S., Oregon.

How to keep that rich red look in a chocolate cake?

S. E. S., Pennsylvania.

How to make the Album Quilt-Block pattern?

A. H., Ohio.

How to keep syrup made from granulated sugar from turning into a hard mass in the cup or pitcher?

Mrs. F. C., Iowa.

Where I can get a copy of "The Fatal Ring, or the Unequal Yoke?"

Mrs. C. E. I., Alberta, Canada.

How to make a hair-dressing which will not stain the scalp, and how to make drop dumplings that will not fall?

Mrs. S. E. P., Iowa.

How to can pumpkins?

Mrs. G. H. P., Virginia.

How to make peach and apricot wine and brandy?

Mrs. C. L. K., California.

EDITOR'S NOTE—We gave our willing friends of the Letter-Box so very many questions to answer in our last edition, that we will use most of the space allotted to us this time in answering some of them.

The question asked by Mrs. J. H. H., Ohio, in reference to beads made of rose-petals, brought forth a number of letters in answer. Several came from our Pacific Coast friends. Most of them seem to agree in the general details. Due to lack of space, we can give but one of the recipes, but our thanks are due Mrs. R. J. T., New York; Mrs. C. C. S., Minnesota; Miss L. F. S., Oregon; Mrs. C. L. K., California; Miss M. F., Washington, and Miss E., Oregon, for their kind and, in most instances, lengthy directions.

Mrs. C. E. P. of New York kindly sent a recipe for apple jelly, for S. N., Alabama, for which we are much obliged, although it came too late to be used, as did a recipe for the jelly from Mrs. C. L. K. of California.

Questions Answered

Wheat-Ear Lace, for Mrs. F. C., Ohio—I do not know the directions for French lace, but I have a pattern which is called "Wheat-Ear Lace," which I think is very pretty:

Cast on five stitches, knit across plain.

First Row—Knit two, thread over, knit one, thread over twice, seam two together.

Second Row—Thread over twice, seam two together, knit four.

Third Row—Knit three, thread over, knit one thread over twice, seam two together.

Fourth Row—Thread over twice, seam two together.

Fifth Row—Knit four, thread over, knit one, thread over twice, seam two together.

Sixth Row—Thread over twice, seam two together, knit six.

Seventh Row—Knit six, thread over twice, seam two together.

Eighth Row—Thread over twice, seam five together, knit three. Repeat from first row.

Mrs. E. A. M., Illinois.

Another Pie-Crust Recipe—Two cupfuls of flour, three-fourths cupful of lard rubbed well into the flour and a good pinch of salt. Mix with milk or water. Do not work, but pinch together lightly, and roll. This makes enough crust for three pies.

Mrs. T. P. H., Pennsylvania.

The Hot-Water Supply, for Subscriber, Georgia—I have used a three-burner oil-stove for five years. Of course, one can't have hot water all the time as when a coal-stove is in constant use, but with a little forethought one can have plenty of hot water. My stove is large enough so I can set the wash-boiler on when a large amount of hot water is needed; when a less amount is wanted, a large tin kettle is used.

Mrs. C. E. P., New York.

Bread with a Glossy Finish, for S. E. J.—As soon as I take the bread from the oven I brush it over with a clean cloth dipped in butter, lard, or pork fat. It doesn't have to be melted, as the hot bread will do that. It not only makes the bread look nice, but softens the crust. Mrs. C. E. P., New York.

A Way to Make a Nice Cream Pie-Crust—Make the crust by taking two-thirds cupful of lard worked through two cupfuls of flour.

Then add one-half cupful of water, and a little salt (roll it out). Turn a deep pie-tin bottom side up, spread the crust over it. Prick all over with a fork. When done, turn over on a plate or inside of tin. You will have a deep pie-crust, richly flavored and different from the usual kind.

Mrs. R. J. T., New York.

This is from a Man reader of our department: Apple Jelly, for S. N., Alabama—Cut out the blow end of crab-apples. Pare generous skins from other apples of good color. Boil the crabs until tender, and drain through strainer cloth; do not squeeze. Boil the parings until the color is out, not too long a time, else the jelly will be bitter. Strain as above. Add one and one-half cupful of sugar to every two cupfuls of juice. Then boil until the syrup threads from a spoon. It is better to boil gently. Pour off into jars, and seal with a good quality of paraffin wax. This recipe is my wife's, and she makes tip-top jelly.

F. S. P., Massachusetts.

To remove Ink-Stains from Wood, for E. K., Pennsylvania—Try oxalic acid. Apply to stain, and allow to stand fifteen minutes, then wash with warm water, and dry with blotting-paper firmly held down with a weight. This is for plain unvarnished wood. This will also remove rust and ink stains from cloth.

F. S. P., Massachusetts.

To Make Rose Beads, for Mrs. J. H. H., Ohio—Mrs. L. A. B., Washington, sent us the following clipping:

"The Indian girls at our school hold parties to make the beads," said Mrs. Canfield, "much on the order of the old-fashioned spinning or quilting parties. They gather bushels of rose-petals. They grind these petals up very fine, running them through a grinder seven times seven times—you mustn't say forty-nine times, for there is a mystic significance to them in the expression 'seven times seven' which is lost in the prosaic 'forty-nine,' and this mysticism, they believe, has an important part in the result of their labors.

"When the petals are properly ground, they are put into iron pans, and tincture of iron is poured over them. That ends the first party, for it is necessary to let the mixture set for several days, so that the tincture will eat into the iron of the pan and color the composition black. Every time one of the girls passes a pan during this period of 'ripening' she stirs the mixture with her hands, so that it will have the proper color and consistency all the way through.

"After the mixture has 'ripened,' the girls gather again to make it into beads. It is a black, viscous substance, thick enough to remain in any shape into which it may be rolled. The moisture in it has been supplied by the juice of the rose-petals, which runs out in surprising quantity during the process of grinding, and by the tincture of iron.

"The girls take small quantities of this viscous substance from the pans, and roll them into pellets. They are very deft at the work and very painstaking, not stopping until the pellet is perfectly round.

"These pellets are then pierced with hatpins, and are strung on the pins to dry.

"Then the Indian maidens stretch strings across their bedrooms, and from these strings they suspend the hatpins, to allow the beads to dry.

"When the beads are dry, they are taken off the hatpins, and the little rough spots caused by piercing them are carefully polished off. You have then a neatly pierced, black, rose-scented bead for the jeweler."

Candy Citron, for E. K., Pennsylvania—This should be made as late as possible in fall. Use the ripest. After paring, cut in shapes to suit. Cook until tender, in just enough water to cover, with a large spoonful of alum. I put mine in a muslin bag and drain overnight. I made a syrup of white sugar, using as many pounds of sugar as I had pounds of boiled citron. Use very little water; just enough to moisten. Boil gently until the melon is clear. When cool, I put the juice of four lemons to each pound of preserves, mixing carefully, so as not to break the pieces. Place cold in jars with a few cloves from which the heads have been taken. Seal, after a month, drain and dip in powdered sugar, dry in sun or warming-oven. For cake or puddings these are very nice preserves if not dried.

How to Make Bread Glossy, for S. E. J., North Carolina—Break an egg in a cup; don't heat it. Dip a brush into it and apply to loaves or buns before placing in oven. Milk may be used in the same way.

Another method: apply melted butter after the bread has been taken from the oven.

Use a cloth or brush. Sour bread will not gloss. W. K., Ontario.

Apple Roll (requested)—One quart of flour, two teaspoonfuls of baking-powder, one saltspoonful of salt and one pint of sweet milk. Slice rather thin, or chop, about a quart of good cooking apples. Make the dough, roll it out one-third to one-half inch thick. Spread on it the apples (cooked dried apples may be used), and roll up; place in a large baking-pan, tucking the edges under a little to keep the juice in. Spread the top with butter, and put around it two cupfuls of sugar and two quarts of water, and bake one and one-half hours. It makes its own sauce.

N. Ap. P., Indiana.

Chocolate Cake—One cupful of sugar, one cupful of sour milk, two eggs, one table-spoonful of butter, two squares of chocolate melted with the butter, one teaspoonful of soda, one teaspoonful of vanilla and two cupfuls of flour.

Mrs. M. E. W., Massachusetts.

If Mrs. D. M., Indiana, will send me her address, I will tell her where to send for instructions for crocheting a Dutch collar.

How to Make Lozenges from Herbs—Soak gelatin in water. When soft, mix pulverized sugar to form a paste, make thin as for pie-paste, or thinner. Get your tinner to make a small cutter, and cut to the proper size. Dry in a hot place. For commercial use, they use oils of these herbs. But you can boil your herbs, then use the liquid for soaking the gelatin. You will have to guess at the strength of the lozenges.

W. K., Ontario.

Cocoanut Drop Cookies, for E. B., Ohio—One cupful of cocoanut, one and one-half cupfuls of sugar, one-half cupful of butter, one-half cupful of milk, two teaspoonfuls of baking-powder, whites of three eggs and two cupfuls of flour. Ice with boiled icing, and sprinkle with cocoanut.

EDITOR'S NOTE—Thanks are due two kind subscribers who sent recipes for birthday cake for Mrs. J. J. C., Indiana, but neglected to sign any name or initials. Another was sent by Mrs. R. J. S., Ohio. I wish to thank all of these contributors.

Household Hints

A WINTER HAMMOCK—If you are fortunate enough to have a proper place to hang it across a corner, nothing makes a nicer bedroom "couch" than a hammock. It is so good, too, for a small room, for it can be simply hung up on one hook, or taken down altogether when not in use. Hammocks now come in so many beautiful weaves and colorings that it would not be hard to find one suitable with almost any surroundings.

If the use of the hammock is not feasible, the kind of cot used by the soldiers is excellent, and it also can be easily folded away. It can always masquerade as a couch with a proper cover, and colored bedspreads are now made that make beautiful and serviceable couch-covers; the not-too-expensive blue-and-white or red-and-white being the best.

"AJAM."

Some Fritter Ideas

By Elma Iona Locke

Jelly Fritters—Make a pâté-à-chou batter by putting one cupful of cold milk and two ounces of butter into a saucepan to heat quickly. Bring to a boil as quickly as possible, stirring constantly, then add one-fourth pound of sifted and dried flour, and stir briskly over the fire for two minutes. Set the pan away to cool slightly, and as soon as cool enough beat in, one at a time, four eggs, beating hard after each one. This is now ready to use in any way, and, if closely covered and set aside, may be kept for several days. This paste is useful in soups, eclairs, various fritters, etc. For the jelly fritters, cut firm jelly into small squares (marmalades and preserves may be used if wished), mask with the paste, and fry like any fritter.

Orange Fritters—Peel four oranges, taking off all the white pith without breaking the sections, separate into the natural divisions, and dip each piece into fritter batter, fry a deep yellow, and serve with powdered sugar.

Pineapple Fritters—Cut the fruit into thin, small sections, sprinkle with sugar, and let lie for an hour or two, then drain as dry as possible, roll each piece in sifted bread-crumbs, dip in batter, and fry. Serve with powdered sugar, and accompany with pineapple sauce.

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OUR YOUNG FOLKS' DEPARTMENT

Conducted by Cousin Sally



The Saving of the Ewe Lamb

By Lilla Zenib

OF ALL the odd sights that struck me in Eastern lands, I found none quainter than the pet lamb or sheep that follows its owner through the crowded city bazaars. The woolly creature's fat tail and fleece are often absurdly painted blue or crimson, and around its neck are triple rows of turquoise beads to ward off the "Evil Eye."

I have seen extraordinary affection lavished on these gentle pets; and this has often lent point and force in my mind to the Bible story of the poor man's "one ewe lamb," whose sacrifice was deemed such a crime. I myself encountered one of these possessions in tragicomic circumstances.

I was traveling in the interior of Morocco, a wild and lawless land; and the letters I carried entitled me to entertainment at tribal castles in hill and plain. I must say, however, my reception in these savage fortresses varied so remarkably that I always had something to think upon during the day, as my old mule stumbled along the stony tracks.

Of course, a Christian woman had never before been seen in the Atlas country, south of Marraksh; so the attention I received was often embarrassing in the extreme. Withdrawing my hatpins caused shrieks of dismay from onlookers, for they were supposed to be embedded in my head! My gloves, too, were thought a kind of second skin; and, in general, the ladies and slaves of the harems nearly drove me crazy with outlandish questions.

This sort of thing never varied, but food-supplies decidedly did so; and this was a serious matter for my big caravan. One day I would be most meagerly fed and lodged, while at the next halt my host would nearly kill us all with kindness, and house us in a palace.

But I shall not soon forget the citadel of Kaid Anfloos, Lord of 'Mtooga. Here was a huge castle lodging three thousand horsemen; a city in miniature with wide moats and lofty walls—the stronghold of a semi-independent prince.

Yet it was clear from the outset I was none too welcome. Anfloos himself pleaded his presence at a "war council" for not seeing me. Instead, he sent his Imshowri, or guest-usher. A sullen person, this, who gave me a miserable room full of fleas, and never fed my pack animals until ten at night.

✂

Now, the fleas were a real problem; they had a way of dropping from the rough timbered roof with an ingenuity that boded ill for my much-needed rest. I suppose goats had been stabled in the room, and the Imshowri had had no time to get it whitewashed.

I complained to the great man, and he heard me in grave silence. On leaving, he remarked through my interpreter that "he would send Yakoub and his lamb." For what purpose was not stated.

However, both appeared in a few minutes. Yakoub was a black slave of fourteen, and the lamb was literally a picture. It was small and fat-tailed; the fleece grotesquely painted blue and green in geometrical designs. Judge of my amazement when the pretty pet was,

without further ceremony, driven into my room, to collect the fleas into its own curly wool!

As a plan, this was new to me. But it was certainly done well, for I slept in peace. Next morning at eleven, while writing my diary and describing this identical device, I heard wails and high words outside. It was black Yakoub in tears, and my mule-boy was warning him he was not on any account to disturb the white lady.

"What is it, Yakoub?" I called out. "Oh, Mistress of the Lovely Hair," he blubbered, "they would kill the lamb that served thee. For my lord the Imshowri has ordered it for the stranger's feast. How I have loved it and taught it strange tricks! Aiwa! Aiwa!"

Really, I didn't know whether to laugh or cry. But the boy's distress over his pet's impending fate was so obvious and acute—to say nothing of the service his lamb had rendered—that I decided to save the little beast somehow.

Inquiries among my own men revealed the meanness of our rich host. Evidently word had gone forth that

the infidel guest, thrust upon the castle by imperial letters, was to get as little as possible during her brief stay. For this reason were levies made upon the private property of slaves and other dependents.

I called Israfil, the leader of my caravan. "Is it possible," I asked him gravely, "there is no dinner for us besides Yakoub's lamb?"

"Naught else but an old he goat."

Israfil's temper was none of the best when in a land of scant supplies. Even as he spoke in came the negro boy, followed as usual by his painted lamb.

Yakoub looked dreadfully worried. "Oh, lady," he said, gazing up at me with big troubled eyes, "my beloved has not an hour to live. And to think of the tricks I have taught it! Lo, when I say the word, it will bow toward Mecca the Holy!"

Seeing my astonishment, he grasped his pet, and gave a sharp order in guttural Arabic. The funny little thing responded at once with a comic bob toward the hills over which the sun had risen. To this day, however, I suspect a painfully pinched tail rather than lamb-like intelligence in the deed.

"The creature sleeps with me at night," Yakoub went on in level, heart-broken tones. "I wait for me on Fridays outside the mosque. It will fetch and carry at my word—"

✂

The boy stopped abruptly and burst into wailing sobs. For the impassive Imshowri had appeared at the door, and with him a small man bearing a knife. The tragedy was at hand, and poor Yakoub stepped instinctively before his pet. The boy's fat face was distorted with tears.

"Wait," I said calmly. "Israfil—we will have the goat after all!"

"But, lady, the meat is as timber for toughness!"

"Never mind; make a stew of it."

And before I rightly knew what he was about, poor Yakoub was trying to kiss my feet, while his pet, unconscious of it all, fixed soft, inquiring eyes on his master.

As for our dinner, I must admit that, even stewed, the goat was desperately tough. Still, the droll gambols of the delighted negro and his Mecca-bobbing ewe lamb furnished us an entertainment that lasted far into the night.

A Laugh

By A. F. Bonney

A LAUGH, on the farm, is like unto a lump of pure gold thrown into a deep, placid lake. There is a sudden surprised commotion, a splashing, a million gems scintillate in the sunshine, the gold sinks deep into the heart of the lake; but this is not the end, for the surface of the lake has been disturbed, and little concentric rings grow large, continue to spread, going, going, until they die on the farthest shore.

So it is with a hearty laugh; on the farm—in the home. Long after the cause is forgotten, the little waves of merriment spread, are fostered of angels' care; they ripple over the ocean of eternity, and, coming to the foot of the throne, there rest content.

Laugh! It is God's antidote for gloom. It may come hard at first, but after a while it will become a habit, and the farm home and the world will be the better for it.

The Bulletin Board

Happy New Year to All of You!

Anna Larson of Benidji, Minnesota, is so busy sweeping, washing dishes and clothes, cooking, baking and taking care of the baby that she hadn't time to write me for ever so long. What do you think of that, for a busy girl?

Nellie Grieg of Camden, South Carolina, sent me a very cute little poem. Nellie is only nine years old.

Some cousins want to know if they can send in poems, stories and other matter, at any time. My advice is, send such interesting letters that we'll want to print the letters on this page, or parts of them on our Bulletin Board. You see, our page is so small we have to be careful of every inch of space. Notice the kind of letters I print, then you'll know the kind of letter that is most valuable to the cousins.

The new year is a good time to start getting new cousins. Ask your friends to join. They'll want our button and our secret if you tell them about it. I'd like five thousand new cousins this year. Come now, help me, everybody!

Irene Butts of Farmersburg, Iowa, sent me a funny poem about "My Turkey, 'Tis of Thee." It's too long to publish, but I thank her for remembering Cousin Sally.

Eunice V. Tracy, nine years old, of South Boston, Virginia, wonders if Cousin Sally can't give prizes for sewing. She is very fond of needlework. Cousin Sally will promise to think it over.

Erline L. Green of Cumberland, Ohio, husked corn for three days, and earned eighty-five cents. She has a pair of lambs that she can hitch to a wagon and drive about. Isn't that fun? I wish we could see her driving her odd team.

Nina Heacock of Weyerhaeuser, Wisconsin, is only eleven years old. But she sent in a very nice pencil drawing of a farm-yard. It looks as though Nina might be an artist, if she studied hard.

Helenvenn Addicot of Oakland, California, learned cooking at a summer school in Santa Cruz County, California. She says she can make cake and muffins, cook vegetables, do plain sewing, embroidery and stitch on the machine. Isn't she an accomplished cousin?

Wilna Chapman of Paris, Illinois, wears her Cousin Sally button "just everywhere." Do you?

Bertha Baynes of Salem, Indiana, president and secretary of one of our Branch Cousin Sally Clubs, won a medal for speaking on temperance before the local W. C. T. U.

Florence Otelia Utz of Peoria, Ohio, is so fond of proverbs that she wrote me a three-page letter full of them. And this is the way the letter closed:
"Some like one, some like two,
I like one, and that is you—Cousin Sally."
Wasn't that a sweet little compliment from Cousin Florence?

Charles H. Miller of Alexander, North Dakota, says the weather was twenty degrees below zero on the thirteenth of October. But he is leaving Alexander, and he may be able to tell us if the climate is any milder where he now lives.

I hope you have read our new rule about cousins wishing to correspond. It was published on our page in the issue of December 23, 1911. In sending your requests for names, be sure to name the states you wish to hear from.

In the early spring, we hope to have some articles on our page that will help the cousins who are planning gardens. We will have an article on flower-gardens and another on vegetable-gardens. In this way we will help those who wish gardens of either or both kinds. I hope you'll all plant gardens.

The answers to the riddles in our last issue are:
An appetite.
When the cow jumped over the moon.
Because it is past your age (pasturage).

Cousin Sally's New Year Letter

New Year's Day, 1912.

DEAR COUSINS—

A Happy New Year to you all, dear cousins! New Year's day would not measure up to our usual notions of it, did we not make a few resolutions. Now, would it? Of course, you've been writing and sending me resolutions for your own personal conduct, during all of last week.

But to-day I should like to talk over with you some New Year's resolutions that we might keep, in a body, as it were. How about ten resolutions for everybody in the Cousin Sally Club?

They will not interfere with your own special private ones. If you've decided "to help mother with the dishes every day," or "to bring in three armfuls of wood for Anna, every morning," or "never to be late at school," my set of resolutions won't interfere with yours in any way.

✂

Before I tell you what my resolutions are, let me talk a bit about our schools, the schools my cousins attend. It seems to me that every one of my cousins goes to school. Almost every letter that comes to me has in it a line or two, saying:

"I'm in the fifth grade, now," or

"I go to school every day, three miles away," or

"My brother, sister and I are going to the New Hope

School this year." Indeed, if I had to choose one, single subject which would interest every one of us, I'd say "School!"

✂

Now, can you guess what my resolutions are? Yes, they're about school, but they're not the usual sort of school resolutions. Read them, and you'll see.

Here they are:

1. Our school must be the best school ever.
2. We will have a school garden.
3. We will raise vegetables, as well as flowers, in it.
4. We will decorate our school grounds with flowers.
5. We will hang pictures on our school walls.
6. We will have, at least, one plaster of paris cast of some famous statue.
7. We will learn some cooking and sewing.
8. We will start a school library, or fill up the present one.
9. We will all work together.
10. We'll let Cousin Sally help with every school.

✂

Now if you'll do your share in living up to these resolutions, this is what I'll promise to do:

1. I'll publish, as often as I can, suggestions which will help you to make your school the best school ever.

2. I'll publish plans for flower and vegetable gardens.
3. I'll offer, as premiums and prizes, all the vegetable-seeds for your gardens.
4. I'll offer, as premiums and prizes, all the flower and vine seeds and young trees for your gardens.
5. I'll make it possible for you to get good pictures, framed and ready for hanging.
6. I'll help you to get at least one plaster of paris cast of some famous bust or statue.
7. I'll help you to obtain school cook-books, outfits for teaching cooking and sewing, and books of instruction for sewing classes.
8. Our page will publish lists of books for school libraries, and I'll tell you how to get them.
9. I'll help you to work together, with new plans and ideas published on our page.
10. I just want the chance to help you to get these, and without spending a cent of money.

✂

Now, dear cousins, think this over, talk it over, take it to school, show it to your teacher and the pupils, and then let's get to work! I'm ready, are you? And won't our new year be a happy one if our plans work out? Hurrah for 1912! It will be a big year for us!

Your affectionate,

COUSIN SALLY.

The Road to Happiness

[CONTINUED FROM PAGE 22]

"How can we afford such a splendid place?"

Caroline flushed, and her lips trembled. "I hate to tell you what I've thought of," she faltered. "Remember, it's only a suggestion!"

"I'll do anything," Frances exclaimed passionately. "You know I will, Caroline."

"You could take in—paying guests!"

The girl's face turned crimson. "A—a boarding-house!" she whispered.

Miss Sandford nodded, and there was a long silence, while Frances fought with her pride. "I—can't picture myself as a boarding-house lady—but I will—let's talk it over!"

Caroline tried to paint the picture as brightly as possible, for she knew that the girl was absolutely incapable of filling any paying position. At last they decided to adopt the plan if the house were available. Consequently eleven o'clock of the next day found her, though quite unknown to Frances, at Norman's office. There was no necessity to let the girl know that her negotiations were necessarily conducted through his firm, as all of her business was transacted through it.

Norman received her with his usual warmth; but she was rendered almost speechless by the change the month had made in him.

His eyes seemed to have sunk deeper, and the set of his lips was that of a man in pain.

He had not seen Miss Sandford since that evening a month before, and both of them were conscious of a sense of embarrassment. It is always hard to resume the ordinary tenor of friendship after an emotional crisis.

"Can I do anything for you?" he said at last, and from his tone she understood that he wished to ignore the subject that was uppermost in both their thoughts.

"I'm sorry to trouble you," she faltered remorsefully, "but I don't see how I can avoid asking you to help me. I want to assist Frances."

Norman's face flushed a dull red.

"It will be a real kindness to me if you will allow my head clerk to execute whatever—plan—you have in mind. I'm trying to forget." His voice was grave and steady as usual, but suddenly the pencil he was holding slipped from his twitching fingers, and fell to the floor. Caroline rose, her eyes wet, the last faint hope of effecting a reconciliation gone.

"Just a moment," he requested. "I'll ring for Mr. West."

She nodded silently, and waited.

Almost immediately, the little man appeared, his radiant smile greeting Miss Sandford.

"How do you do, Mr. West," Caroline said. "Mr. Norris says you are to attend to a commission for me."

"I shall be delighted." The unction of his tone was indescribable. "If you will just step right this way."

Caroline nodded, then turned to Norman with outstretched hand. Perhaps there is no more sensitive recorder of feeling than a handclasp, and Caroline's was full of sympathy and friendliness. Norman's strong fingers closed over hers with a grateful grip.

"I'm so sorry. If there were only something I could do," Caroline's said mutely, while his answered;

"I appreciate your kindness deeply, but there is nothing."

Then Mr. West conducted Miss Sandford to his office with the air of a courtier preceding his queen, seated her in the most comfortable chair, and sat down himself in an attitude of respectful attention.

Caroline outlined her plan, her face very tender with pity for Frances's predicament, when suddenly, her eyes meeting Mr. West's by accident, she became conscious that he was regarding her with humble adoration.

She blushed brightly, and said, a little confused, "What do you think of my plan, Mr. West?"

Then he too flushed until his very ears were crimson.

"Oh, tell me," she persisted, "if it isn't practical, we'll just have to think of something else."

"It's—quite practical," he stammered. "How kind you are, Miss Sandford! How wonderfully kind!" His voice died away weakly. Never had he made such a speech! It had burst forth uncontrollably out of the excess of his admiration.

Caroline was very human, and this whole-souled ardor had a sweet savor, for she knew the little clerk's habitual meekness.

"Oh, I'm acting in self-defense," she smiled. "I should be very miserable to see my friend in want—and they have lost everything! Even as it is, poor Miss Frances will have enough to contend with."

Mr. West nodded in response to her sigh, but he could feel no deep sympathy for the young lady who had caused his beloved Mr. Norris so much sorrow.

For a brief hour they discussed ways and means, and the little clerk showed all his cleverness and depth. Most women terrified him, but Caroline's gentle cordiality always gave him the courage and self-assurance he lacked; then Miss Sandford rose to go, saying, "As soon as you have found out who holds the mortgage that is being foreclosed,

I authorize you to try to buy the property. Let me know as soon as you have done anything, no matter what it is."

Mr. West promised, and ushered her out, then stood dreamily regarding the big leather chair she had just vacated. "Why was such a charming woman unmarried?" he wondered. How beautiful she was! How winning! For several minutes he stood gazing vacantly at space, his face lit by his luminous smile, then absently he walked toward the tiny mirror which hung behind the screen which hid his hat and coat, and regarded himself gravely. Then, abruptly, a wave of self-consciousness swept over him, and clapping on his hat he hurried out to execute Miss Sandford's commission.

Very easily he learned that "The Home Real-Estate Company" held the property he desired, and he went to its headquarters without further delay.

On stating his business, he was ushered into one of a series of private offices, in which sat a tall, thin, keen-eyed gentleman.

"Yes," he admitted, "the house was for sale. Who wished to buy it?"

Mr. West told him, speaking the name softly.

The man in the desk chair started, and seeing that his movement was noticed said smoothly:

"I have the pleasure of knowing Miss Sandford, and I'm rather surprised at her purchasing any of the Taylor property. Does she wish it for her personal use?"

"No," Mr. West answered proudly, "she wants to rent it to Mr. Taylor's wife and daughter."

A sudden contraction passed over the gentleman's face, and his eyes flashed as the little clerk went on in his meek voice: "You are undoubtedly authorized to act for the Company—" he paused. "Are you not, sir?"

"Oh, yes!" the gentleman roused himself. "I beg your pardon. I thought you knew me. I'm an officer of the Company. I'm Mr. Jacob Jordan."

[TO BE CONTINUED]

Answers to Puzzles

In the December 23, 1911, Issue

Answer to Investment Puzzle

One fourth of Mrs. Smith's money, or one third of her husband's, or one seventh of their combined funds, would buy that shady grove and babbling brook. The other six sevenths comes to \$5,000; so that one seventh, the price of the grove, must have been \$833.33.

Answer to Puzzling Time

When Tommy's mother asked him to tell her the time, the hour, according to the clock, was 60/143 of a minute to 11. If the hour and minute hands were to change places, the time would be 5 and 5/143 minutes of 12. There are 143 positions on a clock dial, which the hands reach in course of twelve hours' traveling, when they might change places and still tell the correct time. It was at one of these peculiar moments that Tommy's mother requested him to tell the time.

Solution to Drovers' Puzzle

Hank had eleven animals, Jim seven and Duke twenty-one, so that there were thirty-nine animals altogether.

Solution of Mars Puzzle

The correct route through the canals of Mars spells out the sentence, "There is no possible way."

Answer to Cattle Puzzle

Farmer Jones originally paid \$150 for one cow and \$50 for the other. In selling he made 10 per cent. on one and lost 10 per cent. on the other, receiving \$210, or a gain of 5 per cent. on the transaction.

Solution to Horse-Trade Puzzle

Sixty dollars is half the cost of the animal and three quarters of the cost of his keep. This makes one quarter of the keep one third of \$47 and the total loss \$28 2/3.

Worth Their Weight in Gold

In the problem of the dowers of the June brides we were told that the three brides weighed 396 pounds, and that there was a difference of 10 pounds between each. Kitty therefore weighed 122, Nellie 132 and Minnie 142 pounds. As Brown weighed the same as his bride, we will pair Kitty and Brown, weighing 244. We pair Nellie and Jones (198) at 330, and Minnie with Robinson (284) to make the required 426, which gives a total of 1,000 pounds, or half a ton.

Answer to Rebus

Title-page.

END MAN—"Now, will the laziest man in the room stand up?"

All rose but one.

END MAN (turning to one seated)—"And why do you remain seated?"

"I'm too lazy to get up."—Ex.

As the train neared the city the colored porter approached the jovial-faced gentleman, saying with a smile:

"Shall Ah brush yo' off, sah?"

"No," he replied, "I prefer to get off in the usual manner."—Ex.

"Who was Noah's wife, Pa?"

"Joan of Arc, my boy. Now run away."—Ex.

Act Now!

Renew Your FARM AND FIRESIDE Subscriptions Bargain Prices for Ten Days Only

FARM AND FIRESIDE is extending reduced subscription rates to our *old subscribers* for a few days longer.

All our subscribers who intend to renew their subscriptions should accept one of these offers now whether their subscriptions expire this month or several months later.

Our special prices will save you money. This is the most extraordinary subscription bargain ever offered. You can get the most valuable farm paper published at half price if you renew your subscription on these special offers.

FARM AND FIRESIDE is going to be bigger, better and more interesting during 1912 than ever before.

For Ten Days Only

These Special Prices will be *in force the next* ten days. You ought to act right away and be on the safe side. The regular price of FARM AND FIRESIDE is 50 cents a year.

Farm and Fireside

Twenty-six big numbers every other Saturday for the next year. More and better reading matter than you can get in any other paper.

Farmers' Lobby

This will be a most important feature during the next year. It will keep you in close touch with the great political changes and the coming presidential campaign.

Headwork Shop

The Headwork Shop will contain more new and original ideas than ever. It will be chuck full of practical appliances.

Poultry Profits

The Poultry Department has arranged for a large number of intensely interesting and valuable articles that will mean increased Poultry Profits for our readers.

A Big Novel

We are now running a series of big, live, interesting serial stories in FARM AND FIRESIDE. You will be the better for reading these splendid stories.

Departments for Women

The various big departments for women in FARM AND FIRESIDE will be larger and better than ever this year. These features alone will surpass in excellence similar features in our most popular magazines.

SEND YOUR SUBSCRIPTION BEFORE JANUARY 16th

So please don't delay sending us your order at once, or you may be too late. Do this right now, as to-morrow you may be too busy and forget.

The Necessary Farm Paper

FARM AND FIRESIDE is now thirty-five years young,—the most reliable and at the same time the most progressive farm paper published. All subscribers receive FARM AND FIRESIDE every other Saturday.

Our big special departments are going to be enlarged considerably during the next year and will grow more entertaining and instructive as the year progresses.

Our Best Offer

This is our best offer of the year. The subscription season is now drawing to a close. Every reader who has not accepted one of our previous offers should respond to this call. It will save you money. Now is the time to send your subscription, if you want to subscribe at a bargain price.

Your Own Subscription for a Favor

Get two of your neighbors who are not now subscribers to give you 35 cents each, for a year's subscription to FARM AND FIRESIDE. Send us the names and 70 cents collected, and we will enter both subscriptions for one year, each, and extend your own subscription one full year as a special reward.

RUSH THIS ORDER BLANK

FARM AND FIRESIDE, Springfield, Ohio.

I accept your Bargain Offer No. _____, for which

I enclose _____

Yours truly,

(Your name) _____

(Street and No. _____

or Rural Route) _____

(Town or City) _____

(State) _____

This blank, if mailed before January 16th, entitles the sender to the above Special Prices; or write your order on a separate sheet of paper.



See This Vacuum Cleaner

Booklet Free

Here is a Vacuum Cleaner that runs like a carpet sweeper. As it rolls across the carpet it sucks a strong blast of air up through the carpet bringing every particle of dust and dirt with it.

No more taking up of carpets. Simply run the easy running DOMESTIC over them every day or two and you keep them as clean as new.

The above illustration shows a pile of dirt which came out of the texture of a rug that looked clean.

Try it in your home at our risk

Satisfaction guaranteed or money promptly refunded.

Price \$16.00 east of the Rocky Mountains.
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AGENTS WANTED EVERYWHERE
Write for free folders.

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223 Masonic Temple Peoria, Ill.

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THOUSANDS of men and women keep pegging on in the same old way, barely making a living, perhaps without steady employment. They don't know how to get a position that will pay better.

Here is a chance for someone in your county to get a permanent position that will pay well. It is mighty pleasant work, and we guarantee good pay.

If you want to make more money than you do now, or if you are looking for a good job, write to us to-day.

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SPRINGFIELD, OHIO

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right to your own home without a cent from you. No C. O. D. No obligations. Send it back at our expense if you don't want to keep it. \$2.00 a month now pays for a genuine Edison Phonograph at Rock Bottom prices and without even interest on monthly payments.

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25 VALENTINE POST CARDS 10¢



25 of the most beautiful post cards ever sold, 10 cents. All different, consisting of dainty Cupids, Hearts, Doves, Lovers, Text and Floral designs. Far better than our Christmas cards, and they were beautiful. Some are embossed and in gold, lithographed in many colors on a fine grade of cardboard. V. HERMAN & CO. 2430 North Halsted St., Dept. 489, CHICAGO

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-FREE in your kitchen or living room or wherever it's needed. 30 Days' Free Trial—then 360 Days' Approval Test. The Kalamazoo must make good to your satisfaction. Cook stoves, ranges, heating stoves, gas stoves—400 styles and sizes to choose from.

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Cash or credit, just as you wish. Our direct, wholesale, factory prices save you \$5 to \$40 over the very best price your dealer could make. We prepay freight. The stove is one you'll be proud to own—the genuine Kalamazoo—stove standard of the country for years. Made its own way and proved its superiority in 170,000 American homes.

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Your copy ready—the biggest, most valuable book on stove. You can't afford to be without it—packed with money-saving, inside stove facts. We will ship stove the day the order comes—always within 24 hours. When you write ask for Catalogue No. 183, giving prices and easy terms.

A Kalamazoo Direct to You Kalamazoo Stove Co., Manufacturers Kalamazoo - Mich.

THE GIFT CLUB

Jean West



Secretary

SUCH a heaping, overflowing bag of mail the postman poured on my desk this morning! Letters from north, east, south and west—from all over our country. For a minute I was almost buried under the white and blue and violet avalanche, but I managed to stack the letters into three big piles, and here I have sat ever since, reading and reveling in them!

So many, many girls are asking about our Gift Club. It seems to me that at last every FARM AND FIRESIDE girl has found out the good news, that right here in her own paper there is a club that will help her get the little, dainty, luxurious "extras" that we all long for. Of course, The Gift Club could show you how to earn money to buy these things for yourself, but we girls think that it is ever so much more delightful to earn the gifts than it would be to earn the money first, and then buy them.

Do you want to see some of the letters from our mail-bags? First, there are hundreds very much like the one below from girls who very soon will become members of the Club, but who are not now quite sure that they "believe" everything I have told them! Funny, doubting little letters! We Club girls know that it is all true, don't we?

DEAR MISS WEST—

Mother says that I still believe the moon is made of green cheese, and perhaps I am too credulous, but there's one thing that I can't quite believe—that the girls who join The Gift Club can get all those wonderful presents free! You offer to tell us all about it if we are interested. My curiosity has reached the boiling-point, and so please do write at once. I don't promise to be a member. MINNIE J.

No, my dear Miss Minnie J., you do not promise to be a member, and yet I know very well that inside of two weeks you will be just as enthusiastic as the rest of our girls. Wait until you receive my letter!

Here is a joyous, breezy little note that I do want you to read:

DEAR MISS WEST—

It came—the lovely gold bracelet, I mean—and I can't begin to express my thanks for it. It is the prettiest thing I ever saw. If all your gifts are as lovely as that, you may count me a life-long member! M. L.

They are "as lovely as that"—and even lovelier. Just earn some and see!

And here is a letter that made me very, very happy:

DEAR JEAN WEST—

I do not know when I have been so delighted with anything as I am with The Gift Club. It is not alone the gifts in themselves—which are just as beautiful as you say—but it is the whole feeling and spirit of good fellowship

that exists in the Club. We girls on the farm are so often lonely, and it means a great deal to us to belong to a club like yours, where we get so much of cheer and inspiration—and good solid presents, besides! I greatly enjoy my correspondence with you, and I thank you for giving me such a hearty welcome into the Club. S. L., Indiana.

The letter below brings back to memory the Thanksgiving turkey and a crowd of



"My new silver knives and forks were a present from the Club"

laughter-loving, fun-seeking girls and boys rollicking all over the house:

DEAR MISS WEST—

I wish you could have been here on Thanksgiving Day! We had a family reunion—fourteen children and seven grown-ups. And my! such a good time as we did have! The dinner was fine, they all said, and they were so surprised when I told them that my new silver knives and forks were a present from The Gift Club. Hilda, my brother's wife, liked them so much that she is going to join the Club right away, and earn some, too. You make it so easy for us to get things we want. I should think the trouble would be that you would have more members than you could look after! MRS. N. T., Ohio.

No, we could not have too many members in The Gift Club. The more members we

have, the greater success it will be, and the more we shall be able to give you girls.

Hurrah for the Lone Star State! It has given us one of our most ambitious Club girls. Just listen!

DEAR MISS WEST—

That perfectly beautiful manicure-set reached me yesterday! I was wild with joy when I opened the box! Do you remember in one of your first talks to us you said that you longed for a toilet-set when you were a little girl? Well, that's the way I've always felt about a manicure-set—and now I have it. Thank you a thousand times! N. D., Texas.

And here is the first New Year "resolution" letter that I have found so far:

DEAR MISS WEST—

I've been reading your articles for months, and now that it is the beginning of a new year, I've made up my mind to write and find out how FARM AND FIRESIDE girls can earn so many beautiful presents. There are so many things that I need for the house. Can I get them in the Club? Lace curtains, for instance, and table-cloths and napkins. Please tell me all about the Club. I want to join. MRS. A. N., Pennsylvania.

This letter from a dear little twelve-year-old member of The Gift Club I must tuck in:

DEAR MISS JEAN WEST—

I like the necklace. It's awfully pretty. It came on Christmas and seemed just like one of my regular presents. I feel as though you were my aunt or cousin or something. Your letters are so nice. Now I'm going to work for a birthday ring. My birthday comes in January. NELLIE M.

I haven't room for any more letters, because I do want to tell you girls who have not yet joined The Gift Club that I am holding a place for you. There are no dues nor expenses of any kind. It costs absolutely nothing to join, but the benefits that you will receive—that's quite another story! I have all sorts of rich and rare gifts stored up here in my cupboard, and I am eager to send some of them to you. What must you do to earn these gifts? Ah, that is a secret that I cannot tell you in these pages! But I shall be glad to whisper the secret—on paper—to you if you are interested.

Do make at least one resolution this month, the first of the new year, that you will write me at once and gratify your curiosity about the Club. Cordially yours,

Jean West

Secretary, The Gift Club,
FARM AND FIRESIDE, Springfield, Ohio.

Some New Books

And a Word About Them



THE Book of Frolics for all Occasions has been arranged by Mary Dawson and Emma Paddock Telford. It includes suggestions for picnics, class-room frolics, church fairs and sociables, bazaars, dinners, luncheons and the holiday celebrations of the year. Miss Dawson is a frequent contributor to FARM AND FIRESIDE. The book is published by William Rickey & Co. of New York, and costs \$1.00, postage extra.

The Body Beautiful, by Nanette Magruder Pratt, contains many suggestions for beautifying without the aid of cosmetics, lotions, etc. Sun, wind, fresh air, sleep, bathing, wholesome food and sensible clothes seem to make up the sum of her directions. The book is illustrated by a number of photographs of Mrs. Pratt, showing that she practices her own preaching, with charming results. Published by the Baker & Taylor Company, 33-37 East 17th Street, New York City.

A Little Book of Homespun Verse, by Margaret E. Sangster. It seems as though no further exposition of the book is necessary. All who read and know Mrs. Sangster will want to read her book. And we all know Mrs. Sangster, for she talks to us, once every four weeks, from the columns of FARM AND FIRESIDE. The Sturgis Walton

Company, 31-33 East 27th Street, New York, publish the book. The price is \$1.00, postage extra.

The Most Popular Cabinet Organ Pieces—If you have an organ in the house, you'll surely want this book. It contains many of the classics, as well as most of the old favorites. Mendelssohn, Mozart, Beethoven, Glück, Haydn and Schumann are there. But you'll likewise find "The Star-Spangled Banner," "Dixie's Land," "America," "Comin' Thro' the Rye," "Home, Sweet Home," "Jerusalem the Golden," "Maryland, My Maryland" and "The Watch on the Rhine." The book is published by Hinds, Noble & Eldredge, 31-33-35 West 15th Street, New York.

History of American Literature, by Reuben Post Halleck, describes the greatest achievements in American literature from colonial times to the present, placing emphasis on men and on literary movements. Pages, 432; illustrated; price, \$1.25; American Book Company, New York.

Alfalfa on Wildwood Farm, by H. D. Folmer, is an instructive volume to anyone. It contains only first-hand experience, and so rings true. The possibilities of alfalfa in Ohio are explained by showing what has

been accomplished, and how. Pages, 105; illustrated; price, \$1.00; H. D. Folmer, West Jefferson, Ohio.

Law for the American Farmer, by John B. Green of the New York Bar, is published under the editorial supervision of L. H. Bailey. Such subjects as "Title to the Farm by Deed," "The Boundaries of the Farm," "Farm Labor," "Water Rights," "Pure Milk," "Crops," "Live Stock," "Sales," "Insurance," etc., make the volume all that is needed. Pages, 438; price, \$1.50 net; The Macmillan Company, New York.

Meadows and Pastures, by Joseph E. Wing, is a thorough and practical treatise on the grasses of America and their relation to profitable farming. The methods of eradicating such undesirable grasses as quack-grass and others are explained. Illustrated. The Breeders' Gazette, Chicago.

Breeding and the Mendelian Discovery, by A. D. Darbishire. This is a plain and practical introduction, covering 278 pages, into the principles of heredity interpreted according to Mendel's law. Breeders and others wishing to begin this study can do no better than to read this book, written by an expert—a member of the faculty of the University of Edinburgh. Cassell & Co., Ltd.

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SEND US YOUR LUMBER BILL FOR OUR ESTIMATE

THE WORLD'S BARGAIN CENTER

We buy supplies at Sheriffs', Receivers', and Factory Sales, besides owning outright saw mills and lumber yards. Usually when you buy your building material elsewhere for the complete buildings shown in this advertisement, it costs you from 50 to 60% more. By our "direct to you" methods we eliminate several middlemen's profits.

Every stick of lumber and every bit of building material offered in this advertisement is guaranteed brand new and first class; as good as you can purchase from anyone anywhere. You run no risk in dealing with us.

\$493 Our price for the material to build this house.



HOUSE DESIGN No. 111

Here is a neat, cozy, little cottage that can be built at the minimum of cost under our guaranteed building proposition. Size, 23 ft. 6 in. wide by 33 ft. Five rooms and bath. All the comforts desired by home-loving people. Extra large porch. Convenient interior. For the price it is impossible elsewhere to secure a home with so many excellent features.

\$635 Our price for the material to build this house.



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The Mansard roof construction of this design enables the owner to utilize all space to the best advantage and get the very most to be had for the money. Size, 21 ft. wide and 28 ft. deep; six rooms, bath and basement. This design offers more convenience than many larger and higher priced houses. Is constructed of the very best materials at a magnificent saving.

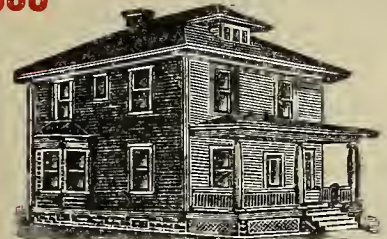
\$698 Our price for the material to build this house.



HOUSE DESIGN No. 6

This is our leader. Size, 23 ft. by 33 ft. 6 in.; 7 rooms and bath. There has never been a design offered that can be built in so economical a manner with less material to produce satisfactory results and a general effect of elegance than this house. Has satisfactorily been built more than 400 times during the last two years. A beautiful home at a splendid money-saving price.

\$835 Our price for the material to build this house.



HOUSE DESIGN No. 130

Size, 25 ft. 10 in. x 29 ft. 6 in.; eight rooms and bath, pantry, vestibule and large hall. A square, solid, substantial construction. All space is advantageously utilized. The Colonial windows and porch columns are distinctive features. For convenience and artistic arrangement, general elegance of appearance, and low price, this house is unequalled.

CHICAGO HOUSE WRECKING COMPANY THE GREAT PRICE WRECKER

LUMBER PRICES SMASHED. SAVE 30 TO 50 PER CENT



Now is the time to get our prices on lumber or building material. Do not hesitate to send us a list of your wants, whether it is lumber or mill work, complete house, barn or corn crib, or a plan of your own that you wish developed. We have the best Lumber Yard in the United States, experienced Architects, and can give you unequalled service in shipment, quality, finish and design. We are the only concern in the United States that has all the building material right here at Chicago where you can come and see it loaded, and from which point IMMEDIATE SHIPMENT can be made. We can furnish everything from a common board to the finest Quarter-Sawn Interior Finish, including Mill Work, Doors, Mantels, Colonnades, Side Boards, etc.

Following are some of our bargain prices:

Extra Star A Star Washington Red Cedar Shingles. Per M.....	\$ 3.39
5-2 all Clear Washington Red Cedar Shingles. Per M.....	\$ 3.78
No. 1 Drop Siding, Yellow Pine, kiln dried.....	\$23.50
No. 1 Flooring, 4 in., Yellow Pine. Per M.....	\$18.00
No. 1 Ceiling, 3/4 x 4 in. Yellow Pine, kiln dried. Per M.....	\$16.50
No. 2 Ceiling, 3/4 x 4 in. Yellow Pine, kiln dried. Per M.....	\$14.00

CORRUGATED ROOFING Per Square \$1.25



Roofing Prices Smashed. Metal roofing is superior to all other coverings. A fact proven absolutely and conclusively by 100 years of actual experience. We carry a complete stock of all styles.

Here is a roofing offer that has never before been equalled. We have 5,000 squares of Corrugated Iron Roofing sheets all 22 x 24 x 1 1/4 in. corrugation.

Strictly new first-class that we offer at \$1.25 per square Free on Board Cars at Chicago. At this price we do not pay the freight, but if you will write us for our Great Roofing Offer, we will make you Freight Prepaid Prices lower than ever offered in the history of roofing material.

Our stock includes painted and galvanized. We can furnish it in flat, corrugated, standing seam, "V" crimped, brick siding, beaded ceiling and in ornamental fancy ceiling. In fact we can furnish your every want in the covering line.

A hammer is the only tool needed in putting on all grades but the standing seam. We give you without cost with every order for 3 squares or more a handsome serviceable crucible steel hammer that ordinarily retails from 75c to \$1.00. Write to-day for our Great Complete Roofing Catalog, and our latest Roofing quotations.

"PREMIER" HOUSE PAINT Per Gallon \$1.08



Mr. V. Michaelsen, Supt. of our Great Paint Dept. is probably the best known paint man in the world. His picture has appeared on millions of gallons of cans. He is our guarantee of quality. Our Ready Mixed "Premier" Brand of Paints are made under a special formula and will give the best service and satisfaction. Our prices range from \$1.08 to \$1.21, depending upon quantity.

Our "Premier" Barn Paint is an ideal protection for barns, roofs, fences, outhouses and all general purposes. This is a paint in which Mr. Michaelsen has put all his personality. Comes in green, maroon, yellow, lead, red and slate.

In 1 gallon cans, per gallon 82c
In 25 gallon cans, (1/2 barrel), per gallon 72c
Write to-day for our Great Color Card and prices.

\$37.50 BUYS COMPLETE BATHROOM OUTFIT



Here is an outfit that is good enough for any home. It is strictly A No. 1 and first-class in every particular. The bath tub and lavatory are white porcelain enameled over iron. The closet is a syphon acting low down outlet. It is our lot No. 5-AD-33.

Our handsome Plumbing Catalog lists many other outfits ranging in prices from \$26.30 to \$92.50.

We will furnish all the Plumbing material needed for any of the houses shown in this advertisement, including one of the bathroom outfits described above, besides a one piece roll rim white enameled kitchen sink, with white enameled drain board, a 30 gallon range boiler and all the necessary pipe and fittings, and all material of every kind to complete the entire plumbing system, including all fixtures, furnished with iron pipe connections for the sum

\$83.95

WALL BOARD

Our Magic Wall Board is positively the best on the market. This is the Wall Board that has a backing of regular 4 ft. lathe and Asphalt Mastic, the face side of which is heavy cardboard, properly sized, ready for calceining, paint or wall paper. It comes in sheets four feet square. Write us what space you wish to cover and we will send you descriptive circular and name you delivered prices. Be sure to mention Mastic Wall Board M-W-22.

\$2.50

Price per square.....

READY ROOFING, PER SQUARE 85c

Our Rawhide Roofing is the highest grade roofing at the lowest price ever offered. It has a foundation of tough fibre texture so substantially prepared that it is well-nigh indestructible. Every foot carries our iron-clad guarantee to be absolutely right.

In addition to our high grade Rawhide Roofing, we offer for a limited time 10,000 squares of our Ajax Brand of Ready Roofing at 85c per square. It is put up 108 square feet to a roll. Price includes large headed nails and cement sufficient to lay. While it is practically the same as our Rawhide Roofing, it does not come in continuous lengths; maybe two or three pieces to a roll; of course that does not affect the quality. 85c

Our price for this Ajax Brand, 1 ply, is... This price includes freight to Illinois, Indiana, Iowa, Wisconsin, Ohio and Michigan. Write to-day for free samples.

HEATING PLANTS



We will save you 30 to 50% on a modern steam, hot water or hot air heating system. A modern heating system is now within the reach of all. We have hot water heating plants for modern homes all the way from \$100 up.

By following our simple plans and instructions, you can install your own material, thus cutting out the expense of plumbers and steamfitters. This together with the great saving we afford you on the material itself insures a saving of 30 to 50%.

MONEY SAVING HARDWARE OPPORTUNITIES

Complete, wrought steel, copper finish front door set. Artistic, attractive design. Size, 4 3/4 x 3 1/4. Mortise lock complete. **\$1.40**

Complete wrought steel, antique copper finish plated front mortise lock 3 3/4 x 3 1/4. One key and one pair of knobs; two escutcheons with screws. Per set..... **48c**

GALVANIZED WIRE Per 100 Pounds \$1.25

This is our price for Smooth Galvanized Fence Wire, known as Wire Shorts. It comes in various lengths, put up 100 lbs. to the coil. \$1.25 is our price for our 6-gauge; other gauges in proportion.

We offer brand new Galvanized 2 pt. Barbed Wire put up on reels, containing about 100 lbs. **\$1.85**

We can furnish this also in 4 point at the same price; also in painted at \$1.50 per 100 lbs.

Better order now while these remarkably low prices exist.

28 Inch Square Mesh Hog Fencing, per Rod 15 Cts. Here is a bargain such as has never been offered. A heavy weight new Galvanized, well built hog fencing, suitable for general purposes at 15c a rod. Other sizes at equally low prices.

Crimped Wire for Re-Inforcing.

We can furnish No. 9 Galvanized Crimped Wire in lengths required for re-inforcing purposes. Price per 100 lbs..... **\$2.25**

Write for our Wire and Fencing Catalog. Tells all about our Samson's Woven Wire Fencing. Also quotes low prices on Barbed Wire, Smooth Wire, and tells about Lawn and Garden Fencing; describes gates and posts.

IRON PIPE AND FITTINGS

Rejuvenated Pipe, in random lengths, complete with couplings suitable for gas, oil, water and conveyance of all liquids. Sizes 3/8 inch to 12 inch.

1 inch, per foot, .3c. 1 1/4 inch, per foot, .3 3/4c. Send us specifications and we will quote for your exact requirements. Also a complete stock of Valves and Fittings.

Our Binding Guarantee Protects You

Our capital stock and surplus is over \$1,500,000.00. Our 19 years of honest dealing guarantees absolute satisfaction. Any material not up to our representation may be returned at our freight expense both ways and money refunded in full.

Our wonderful spring building offer sets a new pace in the building world. Never before have such remarkably low prices been published.

Our stock includes practically every manufactured article. Besides building material we have a complete stock of Dry Goods, Clothing, Boots and Shoes, Furniture, Household Goods, Groceries—in fact everything needed in the home, on the field or in the workshop.

\$580 Our price for the material to build this barn.



OUR JOIST FRAME BARN No. 221

Size, 36 ft. by 48 ft. Height to top of roof, 38 ft. 6 in. The most practical and serviceable barn ever designed. No heavy timber in the entire structure. Self-supporting roof. No joists in hay-loft. This design represents strength, rigidity, economy of construction, and is absolutely dependable and substantial. Write us for more complete information.

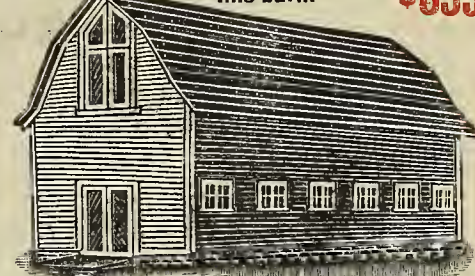
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OUR "STAR" BARN DESIGN No. 270

Size, 53 ft. wide by 80 ft. long 24 ft. to comb. An ideal barn for farmers raising stock on a moderate scale; balloon type. The hay-mow extends to the ground floor and above the grain rooms on each end of the barn. Cattle stalls on one side of the hay-mow; horse stalls on the other. Excellently ventilated in every part. A practical barn well built of guaranteed first-class material, and will give excellent, all around satisfaction.

\$639 Our price for the material to build this barn.



BARN DESIGN No. 250

Size, 30 ft. wide and 60 ft. long, 18 ft. to top of the plate. A barn arranged exclusively for horses. Has 12 single stalls, 5 ft. each, and 6 double stalls, 10 ft. each. Ten foot driveway. Can also be used as a horse and a cattle barn and will accommodate 12 horses and 18 head of cattle. A building of brand new high grade materials, dependable construction, sanitary and generally convenient throughout.

\$955 Our price for the material to build this barn.



ROUND BARN DESIGN No. 206

Size, 60 ft. in diameter and 16 ft. high to plate. Has 14 sides, each side 14 ft. A 16 ft. Silo in the middle, same being 36 ft. high and will hold 160 tons of silage. Hay capacity, 65 tons. Will accommodate 100 head of cattle. The many and excellent features offered by this construction, the high grade materials furnished by us, and our extremely low price makes this a barn bargain worthy of thorough investigation.

ANY OF THESE PRICE WRECKING BOOKS SENT ABSOLUTELY FREE!

PLAN BOOK

Upwards of 100 medium price houses, barns and other designs shown. Each design represents beauty, utility, substantial construction at the lowest possible price.



This Valuable Book Free.

ROOFING BOOK

This book explains all about metal roofing, ready roofing and all other styles. Tells how to apply same in the most economical and satisfactory manner. Quotes lowest prices on highest class material.



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BUILDING MATERIAL BOOK

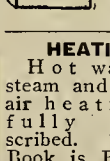
The greatest book on Building Houses ever sent free. Tells all about our wonderful stock of Lumber, Sash, Doors, Roofing, Hardware, Plumbing, and Heating.



Write For It Today.

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A complete education in plumbing so you can equip any building of any style or size and save at least 50%.



HEATING BOOK Hot water, steam and hot air heating fully described. This Book is Free.

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A book showing actual colors, 40 shades to select from. Informs you fully regarding application to get lasting results. Every quotation a saving of from 30% to 50%. Tells all about painting and painters' supplies.



Free Paint Book.

FILL OUT THIS COUPON No. R. F. 1034

Chicago House Wrecking Co., Chicago.

I saw your ad in the FARM and FIRESIDE.

I am interested in.....

Place an X in square opposite book you want sent free.

Building Material Book	<input type="checkbox"/>	Paint Book	<input type="checkbox"/>
Plan Book	<input type="checkbox"/>	Wire List	<input type="checkbox"/>
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Name.....

Town..... County.....

State..... R. F. D..... P. O. Box.....

CHICAGO HOUSE WRECKING CO., 35th and Iron Streets, CHICAGO

\$44⁹⁵ FOR THIS TWIN AUTO SEAT BUGGY

A Sensational Offer.

Never Possible Until Today

For January and February ONLY we are making some remarkable special price inducements on buggies and gasoline engines. Every man or woman who answers this ad promptly will be in line to benefit by this special offer.

Our new 1912 contracts for and purchases of raw materials, based on our record breaking production of 61,000 vehicles for the year 1911, were made on better terms than we ever secured before. It will cost us less to build every vehicle in our line this year and the object of our January and February special offers is to spread quickly the news of our reduced prices.

This ad will not appear again. You can profit by this special offer no matter if you are not planning to buy a buggy till Summer or Fall, if your letter reaches us in time. If you put off writing till another day or another hour your letter may reach us too late. No matter what kind of a vehicle you have in mind NOW IS THE TIME to write for our special January and February price inducements and for the special proposition we have for you.

Ask about our arrangements to ship buggies from a warehouse near you.

Look again at the buggy pictured here and consider the wonder price we have fixed on it. Take our word for it, we can make you a similar saving on any other style of buggy, runabout, road-cart, spring wagon or farm wagon in our big line, built in the largest vehicle factory in the world, if you will give us the opportunity by answering this advertisement.

AN UNHEARD OF PRICE
FOR THIS FASHIONABLE
TWIN AUTO SEAT BUGGY

\$44⁹⁵

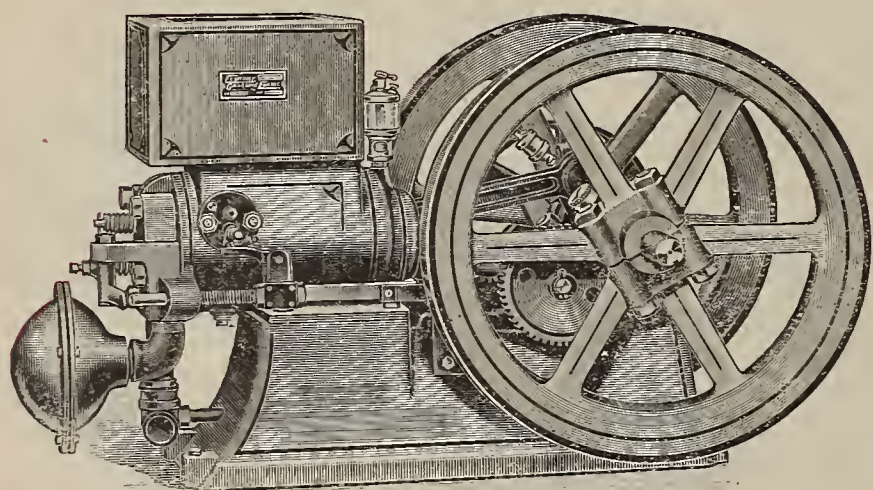


Guaranteed equal to buggies sold
by dealers for \$65.00 to \$75.00

SPECIAL PRICE INDUCEMENTS ON BUGGIES and GASOLINE ENGINES FOR JANUARY and FEBRUARY ONLY

Write Today for Our Special Offers on Gasoline Engines

\$27⁵⁰ Never before such low prices
AND UP on Gasoline Engines. Shipped
from a warehouse near you.



If you don't know what size engine you need our
Department 11 Mechanical Engineers can tell you.
Free information on any power question.

Our special inducements for January and February include reduced prices during these months only on all sizes of ECONOMY GASOLINE ENGINES, 1½, 2, 4, 6, 8 and 10 horse power.

ECONOMY GASOLINE ENGINES are guaranteed equal to any engine on the market. Built in the most modern gasoline engine factory in America. Sold for one-half the prices asked for other high grade engines.

To introduce the ECONOMY ENGINES into sections where they have not heretofore been used, we have prepared for January and February only a special reduced price offer combined with a special proposition for those who are not in the market for an engine during these months.

Even though you do not expect to buy an engine until later in the year we urge you to write us NOW. We propose to do the biggest engine business in our history during January and February and to accomplish it we are making prices and terms that we cannot ordinarily afford to offer. Ask for our Special Gasoline Engine Offer.

Write TODAY.

SEARS, ROEBUCK and CO., CHICAGO.

FARM AND FIRESIDE

THE NATIONAL FARM PAPER

EVERY OTHER SATURDAY

ESTABLISHED 1877

JANUARY 20, 1912



The snow had begun in the gloaming,
And busily all the night
Had been heaping field and highway
With a silence deep and white.

Every pine and fir and hemlock
Wore ermine too dear for an earl,
And the poorest twig on the elm-tree
Was ridged inch deep with pearl.

James Russell Lowell.

\$50 TO \$300 SAVED

We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from \$50 to \$300 on my High Grade Standard Gasoline Engines from 14 to 15 H.P. price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.

GALLOWAY

Price and quality speak for themselves and you are to be the sole judge. Sell your poorest horse and buy a 5-H.-P. only \$109.50

Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.

Wm. Galloway, Pres.
Wm. Galloway Co.
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WELL DRILLING Machines

Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels, or on skids. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.

WILLIAMS BROS., Ithaca, N. Y.

MIDDLEDITCH

Give most power with least expense for fuel. Run on common coal oil, gasoline, distillate, or alcohol. Simplest—safest—most durable—easiest to start—smoothest running. Ask about our 30 days' Genuine Free Trial

Most liberal trial proposition ever made. If you are not perfectly satisfied, you pay nothing. Our new 1912 model now ready for delivery. Write for introductory prices. They will surprise you.

THE MIDDLEDITCH ENGINE COMPANY
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THE LARGEST AND BEST LINE OF WELL DRILLING MACHINERY

in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is FREE.

Austin Manufacturing Co., Chicago

Where Opportunities Abound

Come to the Southeast and Grow Wealthy—

Buy farm land at \$10 an acre up and watch it double in value in five years. The first year's crop often returns purchase price. Plenty of rain at all times. No expensive irrigation necessary—no drouths or blizzards. Winters very mild, summers enjoyable. Rapidly growing cities demand more farm produce.

Beef, pork, poultry, sheep and dairying business pay handsomely. Truck crops, alfalfa, corn, cotton, nuts, fruits, and apples especially, are making Southern farmers rich. Full information and free subscription to the "Southern Field" for the asking.

M. V. RICHARDS, L. and I. Agt., Southern Ry., Room 32, Washington, D. C.



ORNAMENTAL FENCE

Our handsome All Steel lawn fence costs less than wood and is much more durable. Write for Special Prices and free Catalog showing 25 designs. WE CAN SAVE YOU MONEY.

KOKOMO FENCE MACHINE CO.
427 North St.
Kokomo, Indiana.



LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries. Coiled Spring Fence Co. Box 463, Winchester, Ind.

A 1 1/2 H.P. Dazzle Patch

Soon Pays Back \$27.25

BECAUSE it's built for hard farm service every day of the year, summer and winter. It will easily handle any small machine on your farm and the time and labor and annoyance it saves will make it pay for itself over and over. I offer you the Dazzle Patch in many styles and sizes besides this 1 1/2 h.p. engine, and every one is as great a bargain in splendid quality and low price because I give you direct factory prices and can shave the closest price of retailer, wholesaler or jobber on engines of the same power. And I say

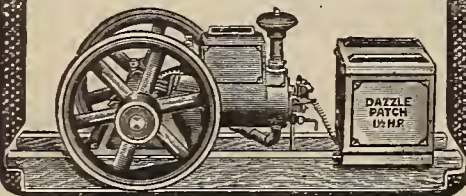
Try It Two Months FREE

and make your final decision strictly on the merits of the Dazzle Patch. Read about my five year guarantee backed by \$5,000,000 and my long record of giving farmers a square deal. Prompt shipment on all engines.

Let Savage Send His Engine Book

Here's information and prices and an offer that you must not pass by if you are considering a farm engine. Write for book NOW!

M. W. Savage, Pres. M. W. Savage Factories Co., Inc., Dept. 506 Minneapolis, Minn



With the Editor

THE law of spiritual progress, according to William Allen White, is that such progress must come through a closer and closer approach to perfect kindness in all hearts. The cruel man is the only benighted man. He only is a savage who is unfeeling. If this be true—and I believe it is—we may well rejoice in the manifold evidences that the American people are the kindest in the world. Or, if not quite that, they are kinder now than they have ever been in their history. We hate to punish people for crime, even. The sufferings of the poor are on the hearts and consciences of the rich. And of all the unselfish activities of this age of growing kindness, those of the American Society for the Prevention of Cruelty to Animals are among the most admirable. This society long ago took up the fight for beings that cannot speak, but have capacity for suffering—that are unable to protest, but are alive to every sort of physical pang. Its work is a very noble one, and when FARM AND FIRESIDE calls down upon itself the displeasure of that organization, it behooves us to see wherein we have sinned.

Here is a letter we have received from the superintendent of the society in New York:

THE attention of our society has been called to an article in FARM AND FIRESIDE, issue of November 11th, headed "Preparing Turkeys for Market," signed by George Sixeas, which contains the following statement:

"To dress them so that they will command premium prices on the eastern city markets, we keep them free from food for twelve hours; then hang them up to pick; then lock their wings by bringing one over the other and catching the tip of the upper wing over the tip of the lower. Then we quickly thrust a keen knife down the throat, and quickly draw it out so as to sever the jugular vein. Then we quickly plunge the knife up through the roof of the mouth into the brain and while the knife is in contact with the brain we give it a slight twist so as to paralyze the turkey and make it loosen its grip on its feathers."

The above description of preparing turkeys for food purposes, for no other reason than that "they will command premium prices on the eastern city markets," is as brutal and unfeeling as are the acts of unnecessary cruelty perpetrated in the matter of despatchment, as described.

The laws of the State of New York make it a misdemeanor for a person to torture an animal. "Torture" is defined in the statute to include every act, omission or neglect, whereby unjustifiable physical pain, suffering or death is caused or permitted.

There can be no question regarding the criminality of the act of hanging a live bird up to pick; that is, hanging a bird up in an unnatural position while still alive, if it produces torture, and causes unnecessary and unjustifiable physical pain and suffering. The courts have repeatedly passed on the question of cruelty in "locking the wings of fowls," which, in nine cases out of ten, causes the dislocation of the wing or wings, as well as the stretching, straining and injuring of the tendons and ligaments, all of which produces excruciating pain and suffering to the animal. Many convictions have been obtained in our state against persons offending in this particular.

Then the method of despatchment is horribly cruel. "Thrusting a knife down the throat, thence up through the roof of the mouth into the brain, then searching the brain for a vital spot so as to give a slight twist that will paralyze the turkey and make it loosen its grip on its feathers," hardly needs comment. It is, in our opinion, more cruel and brutal than almost any of the practices resorted to in the days of the Spanish Inquisition.

Then the statement "we keep them free from food for twelve hours." All of this is torture to a poor, innocent bird, and for what?

That its carcass, as an article of food, "will show the golden yellow, tinged with pinkish cream, and command premium prices on the eastern city markets."

Even the laudable (?) purpose set forth, "command premium prices," does not excuse the acts of barbarous cruelty or make them less criminal.

The law recognizes the necessity of the despatchment of animals for food purposes, but makes a distinction between necessary and unnecessary pain, therefore necessary pain inflicted on an animal in humane destruction is not in violation of law, and it is considered to be "justifiable," but all acts that cause physical pain and suffering to an animal, that are "unnecessary" and "unjustifiable," are in violation of the laws of our state and are misdemeanors.

Briefly, the law makes it a misdemeanor for any person to "torture, or unjustifiably injure an animal; or to deprive an animal of necessary sustenance, food, or drink; or to cause, procure, or permit an animal to be tortured, or unjustifiably injured, or deprived of necessary sustenance, food or drink; or to wilfully set on foot, instigate, or engage in, or in any way further any act of cruelty to any animal, or any act tending to produce such cruelty."

Apart from humane considerations, the fact should be kept in mind that helpless animals and children are involved, and the acts described by your correspondent, Sixeas, are in violation of law, and if persisted in in our state, would lead to the arrest and prosecution of the offenders.

As we are laboring to extend humane education for the betterment of animals and animal conditions, we regret the publication of the article of Mr. Sixeas' in your paper, and we would ask that this communication be given the same prominence in your columns, in order that your readers may fully understand the humane principles to be considered, and the way acts of the character described are viewed by the workers in the field of humane endeavor.

Now let us look at this. Is the live-stock business unkind? It is based on the killing of animals. If we are to kill things at all, we must kill them somehow. If we are not to kill them at all, then we should all forewear meat and join the Doukhobors. Some of the Doukhobors of western Canada are so fanatically opposed to infringements on the rights of animals that they not only refuse to eat meat, but forbid wool clothing on account of the coercion of the sheep in shearing. Leather is tabooed because of the animal sacrifice involved in its production; and the Doukhobors spend the cold winters of Manitoba in clothing of cotton, with celluloid or wooden buttons, and wear boots of cotton felt. They cannot conscientiously give pain or annoyance to horses or oxen, and so hitch their wives to the plows and other agricultural machinery.

The Doukhobors may not be right, but they are true to their own convictions. Their wives consent to the harness, but the animals, having no reason, cannot be said to do so.

Now I think the superintendent of the S. P. C. A. shows himself as unreasoning as the Doukhobors. I wonder if his members are as consistent? Our contributor advocates the hanging up of turkeys by the feet for picking. I think the objection to this of the S. P. C. A. simply silly—and I have been more or less active in humane societies for many years. A boy hanging by his heels for fun subjects himself to at least as much "torture" as that endured by the turkey through this act condemned as "criminal."

"The method of despatchment is horribly cruel," says the S. P. C. A. The superintendent makes much of the fact that the knife is passed up through the roof of the mouth into the brain. "Searching for a vital spot" is supplied by the critic, and is again merely silly, since the turkey is absolutely without sensation as soon as the weapon strikes the brain. All the convulsive movements [CONCLUDED ON PAGE 11]

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FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published every other Saturday. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/2 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.



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in the square below indicates that you are an old subscriber and that your subscription expires this month. Renew by accepting one of our offers before they are withdrawn.



SUBSCRIPTION PRICE

One Year (26 numbers) 50 cents
Canadian, 1 Year . . . 75 cents

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXV. No. 8

Springfield, Ohio, January 20, 1912

PUBLISHED
BI-WEEKLY



A section of the good-roads system of Columbiana County, Ohio: brick paving on the Salem-Washingtonville road, east of Salem, Ohio.

Grow Legumes in the Meadow

AT THE New York Station it has been found that timothy grown with alfalfa is richer in protein than timothy grown alone. Oats grown with peas were also richer in protein than oats grown alone. The hay yield of mixed oats and peas was 4,375 pounds per acre as against 3,325 pounds of oats grown alone. The lesson is obvious. When you sow legumes with a forage crop, or in a pasture, the legumes not only do not supplant the other grass or grain, but perform for it an actual service.

Darkness Cometh Out of Light

TIME was when the common man looked on the president of a university as one with whose decisions it was folly to differ. That time has passed. Is it because the rulers of our universities have degenerated? Or have we common people found out that, as to the things on which we have thought, we are quite as well equipped as they? We sometimes suspect that these robed and shovel-hatted gentry get so used to discourses with boys and girls that when they address real men and women they assume too much of wisdom.

Jacob Gould Schurman, President of Cornell, is in mind as we write these inquiries. Speaking of the people's power movement recently, and especially of direct legislation, he said: "They take us back to the wretched governmental machinery of the ancient world before the discovery of representative government," and more to like effect.

Doctor Schurman doubtless refers to the Greek democracies. Opponents of the present-day movement for restoring the government to the people are prone to point to the Greek democracies with horror. They infer, as President Schurman infers, that the initiative and referendum will give us institutions like those of the Greek democracies, with their demagogues and orators and tumultuous assemblies. But a Schurman should know better. If the right to vote in the United States were confined to the descendants of the pure blood of those who lived in America at the time of the Revolution, and if these ruled the rest of us by meeting in a body as mass conventions and passing laws, we should have something like a Greek democracy—if all the immigrants and their descendants were made slaves or disfranchised.

"Ancient democracy," says James D. Bouchier, "implies privilege; modern democracy implies its destruction."

And if the opposition to direct legislation be sifted to the bottom, it will be found to prove this assertion. Opposition to it is in most cases opposition to the destruction of privilege.

If opponents of direct legislation desire to be really helpful to people who are studying the subject, why do

they not lay before their readers and hearers the story of its working under modern conditions, with universal education, universal suffrage and a public opinion educated by a free press, and aided by the telegraph, the telephone and the modern ballot-box? These workings of direct legislation may be studied in several of our own states; and if their experience seems too brief, why do not these gentlemen recite the experience of Switzerland, where it has been a complete success for half a century? If President Schurman and his fellows say in reply to this that the Swiss are too small a nation to be compared with us, we shall need some proof of the question. Switzerland has three and a half million people. Few of our states are as great. It is one of the most prosperous nations in the world and one of the very best as to government. And it has had the Initiative and Referendum for half a century, and has not the remotest idea of ever abolishing them.

The common folks of this nation have determined to have a direct drive on its government. They do not intend to abolish representative government. Direct legislation does not do this either here or in Switzerland. If our leaders in education choose to discuss the matter, we have a right to ask them to do so on lines of reason, and with due regard to the actual facts of experience with the actual thing under consideration—and not by unenlightening reference to things of an entirely different sort.

Kansas experiments show that by the use of dynamite, costing \$1.50 per acre, exploded at a depth of two to six feet, in holes twenty or thirty feet apart, the rains in spring are caused to sink into the ground where formerly the water stood, and that "the yield per acre has shown a marked increase."

How About Chinch-Bugs?

ANY chinch-bugs last year? Any amount of loss from them? If so, they will be worse next year, you may depend upon it.

But we know more of the pest than we used to, and if you would really like to get a crop of small grain in 1912, now is the time to move in the matter.

The bugs live over under shelter—any sort of shelter. Under grass, leaves, boards, weeds—anything that a bug would naturally feel snug under—is where the chinch-bug passes the winter.

Move the things that can be moved. Rake up and burn what can be disposed of in that way. Don't leave a rail, a board, a bit of dead grass, a dead leaf in a thicket, or a fowl fence-row unmolested.

A little carelessness may result in a great loss. Only the closest attention will drive out such pests.

But one man alone can't do very much. This is a neighborhood matter. Get up a chinch-bug frolic. Let the school plan it. The state entomologist will tell you whether or not there's danger in your neighborhood, and will be glad to aid you. In cities they have days set apart for cleaning the alleys and yards of papers and rubbish. A properly directed effort of this sort may save your wheat—if you live in a chinch-bug region. If not, you may be thankful for 1912 is likely to be a bad year for them.

Making Milk Seem Rich

MILK shot through a "homogenizer"—pronounce it "hoe," then "modge" and then "enizer," with the emphasis on the "modge"—has the fat globules broken up so fine that they won't rise. It brings more of them to the nerves of taste, and the milk or cream tastes and looks richer than it really is.

The government Board of Food and Drug Inspection says that when skim-milk and butter-fat are passed through the homogenizer, and thus mixed in proper proportions, the result cannot be sold as "milk" or "cream," no matter how rich it may be; nor can homogenized butter or skim-milk be legally used in making "ice-cream." We shall hear more of the homogenizer in the future. We suspect that it has a legitimate place of usefulness.

The Rural Parcels-Post Peril

WHEN the present administration first announced its plan for a parcels post on rural routes alone, this paper was the one journal supposedly devoted to rural interests that denounced it as a fraud. Now the delusive character of the proposal is apparent to the nation. It is generally admitted, now, that such a scheme would make of the rural mail-carriers errand-boys for the express companies, without relieving the needs of the farmers for access to markets now closed to them. But the recognition of the fraud is not necessarily immunity from danger. Every movement in congressional circles should be watched by farmers. And whenever the scheme sticks up its head, shoot, with a telegram or a letter.

Artificial Meat

PROF. W. H. LEWIS of Johns Hopkins University, with his wife as co-investigator, has found out how to make meat grow from the seed. Sounds funny, but that is what they do: They put a piece of meat in a salt solution under proper conditions, and it grows! Bits of this artificially-produced meat may be cut off, but what is left keeps on growing as long as the proper conditions are maintained. The bits cut off might be eaten. Professor Lewis suggests that this discovery may some day "have great commercial value." To be sure, the growth of meats in vats by every family is a long way off—but these acorns sometimes grow into oaks. So far as the farmers are concerned, while it may make the live-stock business bad, there will be some comfort in having the laugh on the packers for once. One of the most tantalizing dreams of the chemist has been that of production of food by artificial processes.

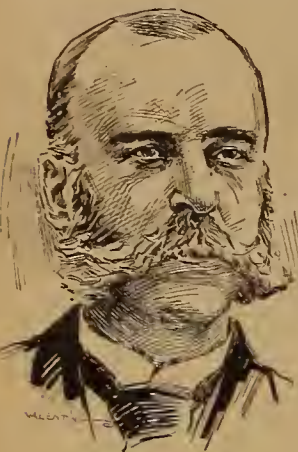
This is a hint that the dream may sometimes come true. "But," as we are prone to say, "not in our time."



Concrete makes an elegant and substantial culvert bridge. Many of the small steel bridges of Columbiana County, Ohio, are built up into lasting structures by encasing the steelwork in cement. This is a picture of one of these.

Dairy Riches After the Age of Sixty

By A. E. Winship



Charles S. Pope

AS THE nineteenth century drew to a close, Charles S. Pope, a blacksmith, the last of three generations of blacksmiths, and nearing sixty years of age, had nothing by way of capital to show for three generations of industry and inventive genius. There were three sons from eight to twelve years of age. There was no money for their education, no business to turn over to them, and yet Mr. Pope had an intense desire to have them stay with him at the old place. Consequently he dumped his fires, and with a mere apology for capital pur-

chased five of the best Jersey cows in those parts and started life all over again. In twelve years he has sent two sons through college and the other is half through. He has built on to his small barn and shop and shed until he has extensive farm buildings. He has brought his one hundred acres to a high pitch of efficiency, has bought two other one-hundred-acre farms, one on either side of his, with good buildings; has brought these farms up to a high state of cultivation; has increased his five Jerseys to fifty cows and much young stock.

In more than seventy years of metal-working three generations of hard-working ingenious, honorable men had accumulated little. In twelve years, from fifty-eight to seventy, Charles S. Pope has lived in comfort, has given a college education to his sons and has a handsome property, and this in Maine, two hundred miles from a market.

When Charles S. Pope decided to make the change, he had as his philosophy this simple creed: "There are people who will contract for butter by the year at fifty cents a pound if it is worth it, and I can make butter that such people will buy." Within two years he discovered that the cream that makes a pound of butter will sell for more than the butter. More profit and less effort was all-sufficient inducement for a man of genius. For ten years he has been selling cream in the near-Boston market.

Alton S. Pope, his son, a Phi Beta Kappa Bowdoin lad, devotes himself to the study of the feeding of the cows individually. No two cows have the same conditions of need of feed, unless by accident. There are seven different feeds and several remedies. A daily schedule is made out for each cow in symbols. Here are the symbols for the feeding of Zorayda the day I was there in early October:

B	3 C. G.	M. F.	L.	C. S.	9
	4	2	4		

Interpreted this means bran is to make up nine pounds above the weight of the other grain which here is $2\frac{3}{4}$ pounds; that is, there is to be $6\frac{1}{4}$ pounds of bran.

3 C. G. means $\frac{3}{4}$ pound of cotton-seed meal and $\frac{3}{4}$ pound of gluten.

4 M. F. means $\frac{1}{2}$ pound of corn-meal and $\frac{1}{2}$ pound of flour.

2 L. means $\frac{1}{4}$ pound of linseed, ground, with the oil pressed out.

4 C. S. means carbolic salt. This is given to all pregnant cows this year, because there is an epidemic which leads

them to lose calves unless prevented by some remedy. The best demonstration is in the results. Zorayda made 764 pounds of butter from 8,554 pounds of milk in a year, or a pound of butter from every eleven pounds of milk. She made 3.8 pounds of butter in one day and 90.7 pounds in one month, or an average of 2.9 pounds a day for the month, and Ency followed her record for the year. For three months Ency was never more than a few ounces behind Zorayda. Zorayda has made 626 pounds average for three years. She gave almost 51.7 pounds of milk a day for many weeks.

Every few weeks the amount of cream necessary for a pound of butter is tested, and when we speak of pounds of butter, we mean the cream that would yield a pound of butter. Zorayda brought in cash in one year \$395 from cream alone, taking no account of the skim-milk, from which they realize an income worth while. The feed cost \$78, leaving a net of \$317 in the cream account alone.

Evelina was the first calf of Zorayda. She was dropped after seven months' gestation, and even Mr. Pope questioned the advisability of trying to raise such an immature calf. With her first calf Evelina gave 494 pounds of butter, and with the third, 538.9 pounds. In one month Evelina, the frail little seven-months' calf, made 75.8 pounds of butter.

Last year twenty cows averaged 521 pounds of butter; thirteen heifers with their first calves averaged 473 pounds of butter, and the entire herd of 38 cows made



The homestead

18,000 pounds of butter (in cream), selling for \$9,000. A pretty good record for a man who did not begin to keep cows till he was nearly sixty! Pretty good for New England, too!

There are now fifty cows in the herd, and the yield of cream will be about twenty-five per cent. above that of last year. There is now business enough for the father and his college-trained boys.

Charles S. Pope, this now eminently successful farmer, was a blacksmith till he was nearly sixty years of age.

At Manchester, Maine, five miles due west from the state house at Augusta, is Bonnymead Farm, where the Papes of four generations have lived.

Three generations were blacksmiths, industrious with inventive genius, but at fifty-eight years of age, Charles S. Pope turned out his fires and gave his attention to farming, in order to induce his three sons to stay at the ancestral home.

For three generations no one of the Papes saw a college or high school, but of the fourth generation Edward C. graduated from Bowdoin College with Summa Cum Laude honors, Alton S. with the same honors and a Phi Beta Kappa distinction, each doing four years' work in three, and Philip H. is a sophomore at the same college, keeping the same pace. All three propose to spend their lives and win fame and fortune at Bonnymead, the home of the Papes for nearly a century.

John Pope, their great-grandfather, started life as a blacksmith on this farm of one hundred acres. In that day there were no steel-tine forks, the hay being pitched by wrought-iron-tined forks that soon twisted out of shape, and this blacksmith marketed the first tempered-steel hay-forks in the New World.

A thriving business was done by this village blacksmith and his sons until the possibilities in the business led a New York manufacturer to contract for the labor of the Massachusetts State Prison at a slight cost, and the price of pitch-forks was made so low as to drive Mr. Pope's sons out of the pitch-fork business.

Alton S. Pope, with his father's inventive genius, was ready with a tempered-steel wedge for granite quarries, and continued in business at the old stand with the field all to himself and his sons.

A quarter of a century ago when Charles S. Pope, now famous as a farmer, was the proprietor, the business of wedge-making attracted many large manufacturing plants, and the blacksmith shop had exasperating competition. At last, in a dairy, run on scientific principles, the Papes have found a business in which they seem able to "defy competition."

Rainy-Day Reflections

By Ray Garringer

THE forenoon had been a little rainy. It had cleared off nicely, so I hitched the horse to the buggy and started to the village, about five miles away, to do some trading. These are some of the things I saw:

Farmer No. 1, a well-to-do and respected man, had managed poorly, and so it happened he had run out of stove-wood at a time of the day when it was most needed (nearly noon), and he had his son out with the ax making the chips fly just as another dashing shower came along. These few wet, soggy sticks were taken in for his wife to use in the preparation of dinner. I imagine she must have shown much patience in keeping her temper under such circumstances. This fellow is in the habit of loafing much and sometimes on pretty days, too, when it would be easier for him to do up some of the little odd jobs which he is sometimes forced to do in the rain.

Farmer No. 2, another well-to-do and respectable man, had neglected to husk his corn out as fast as he should have done last fall. This fodder and corn were badly wasting, and in a quarter of a mile of his field, good bright fodder could not be found.

Farmer No. 3 had his wagon, planter, corn-plow and roller backed up against the barn-yard fence, slowly but surely rusting and rotting away. There was a large barn less than fifty feet away which would have covered part of them at least.

On my return home I thought about my farm, machinery, tools, fences, stock, and the like. Were they where they ought to be, and what they should be? When I drove in and put my horse up, I just got up on the big end post and looked around and thought. I must confess I saw many things that were not just right and were not on a paying basis, but I am young and strong, and I fell to work and am doing up the things most needed just as fast as I can. And it is needless to say I have never regretted those few minutes on that post.

The Meaning of the Sugar-Beet Rumors

By W. C. Robertson

INFORMATION received by the beet-growers of the Colorado district to the effect that the refineries were wholly divorced from the sugar trust, were received by the beet-growers of the northern Colorado beet-fields with the greatest amazement. As strong as the sugar trust has gone here in its efforts to pull the wool over the eyes of the farmer, it has never had the nerve to tell the growers such an absurd piece of fiction.

"If the refineries are divorced from the trust and are in constant danger of being gobbled up by the Havemeyer combination should a cut be made in the tariff, why is it that the refiners of this district spend so much time in company with the high-salaried men of the sugar trust?" was the pertinent question asked by Albert Daakan, of Longmont, counsel for the beet-growers' league and the man who has done more than any other to educate the farmers up to the fact that they are being plundered. "If the refiners are dissociated from the trust, why is it that Aaron Gove, of Denver, was one of the prominent figures at the recent 'feast' given here for the purpose of 'jolly along' the growers?" Why was it that young Havemeyer, son of the late sugar king, recently inspected every refinery in the

northern Colorado beet-fields? Why was it that he carried with him a stereotyped interview which he gave out to the press in every city he visited, urging the farmers to grow more beets, and assuring them that the refineries were the greatest blessing that could come to any rural community? It is preposterous to claim that the refineries are in any way divorced from the trust.

The farmers of the northern Colorado beet-fields have found that there is profit in beets should the growing conditions be ideal. They have also found to their sorrow that when their beets do not yield at least eleven per cent. of sugar they have raised their crops at an actual loss. On many occasions the growers have been unable to realize sufficiently to pay their hands.

Beet-raising is difficult. It requires lots of hard work, and the returns are much less than they should be. If a farmer makes a profit of \$70 an acre from his beet crop, he is lucky. And when the farmer makes his profit, the refiner in the trust gets at least \$350 from each acre. Last year the trust refused to give the farmer the advantage of anything less than one per cent. in the testing of beets. Carefully compiled esti-

mates in the northern Colorado beet-fields showed that this ruse netted the sugar trust more than \$500,000 a year. To use the words of one farmer who was in conference with Chester Morey, the head of the Great Western Sugar Company, a subsidiary of the trust, the company refused to make change with the farmer for anything under a half million dollars. Morey finally consented to settle with the growers on one-half per cent. basis this year—that is, to make change on anything over a quarter of a million dollars.

From sources that cannot be doubted, the Beet-Growers' League has received information that the trust is making a profit of one hundred per cent. every year off of the northern Colorado beet-growers. Every item of cost in the refining of sugar is known to the growers. The farmers realize that the beet industry is a good thing—a mighty good thing—for a community if the right kind of prices would be paid for the beets. But just at present the greedy corporation is contented with nothing short of one hundred per cent. profit a year.

It must be plain to all that the farmer comes out at the little end of the horn, while the trust gets the plunder

The Little Ditch That Grew

By H. L. Walster

FIFTY years ago a farmer in southwestern Wisconsin, in his eagerness to wrest from Nature a living, cleared from a moderately steep hillside its virgin growth of shrub and vine and hardwood forest. Oxen and breaking-plow turned over a soil filled with roots, vegetable matter, all kinds of binding and water-holding material. Wheat was king in those days, and continuous cropping to wheat, with occasionally a crop of some other cereal, was the fate of that side-hill for many years.

But the chinch-bugs came, the soil seemed to be exhausted for wheat, so other crops were raised. Little stock had been kept up to this time, hence little hay produced, and still less manure, so that the return of vegetable matter to the soil was reduced to the minimum. A crop of corn was grown. The rows were planted up and down the hill, for it was found easier to cultivate them when planted in that way. The side-hill cultivator had not been devised. The heavy rains

of May and June came, and the gathering floods found ready-made paths in the cultivator-shovel tracks down the middle of the corn-row. For the corn had been plowed the last time with an old three-shovel "go-devil." The work of the water now began in real earnest.

Continued cultivation, with its attending loss of humus, aided the little ditches in their growth. Finger-like projections ate their way back into the hillside, each tearing away its shred of the soil. Ditch grew into gully, and gully into a many-forked ravine. The farmer and the farm were rapidly approaching exhaustion when the rise of the dairy industry and the advent of the little Swiss farmer proclaimed the necessity, yes, even the advisability of using side-hills for pastures.

The task of reclaiming this side-hill was a slow one. How slow may be judged by the size of the tree to be seen growing in the center of the main gully! Bluegrass sod slowly gained a foothold in the bottoms of the gullies, but even yet refuses to grow on the raw subsoil exposed on the steeper sides. Much more of this once fertile field is destined to be lost before it is permanently reclaimed.

What has been the nature of the damage wrought by water on this hillside? The loss of humus and the absence of the binding roots of the grasses has allowed a slow sheet erosion of the whole hillside to occur, carrying down the slope



The field "just across the valley"

the fine silt and clay particles. Damaging as has been this loss, it might have been quickly overcome had it not been for the ditches that grew. How soon such fields became difficult places for the operation of farm machinery may be seen in the photograph where only three or four year old ditches are shown. Rigid attention to these now, plowing in, filling with straw and brush, and getting into sod, may yet save this field from the fate of its neighbor just across the valley. (Note second photograph.)

The loss by side-hill wash is peculiarly alarming when we realize that it is largely the finer particles of clay and silt that are carried down, material carrying with it several times as much plant-food as do the coarser soil particles. But, besides this transportation to the already over-fertile valley below, or to mud-laden streams, we have the loss of that portion of the side-hill which bore the humus, the product of the centuries. Before the hillside can be restored to its virgin fertility, a new supply of humus must be built up and a new soil formed from the coarser particles left, or from the still unweathered material below. To build a foot of soil, according to Chamberlain, requires ten thousand years. The rapidity with which the little ditch grew on this hillside would certainly indicate that soil formation may lag far behind soil erosion!

EDITOR'S NOTE—There is a lesson in this story, some items of which will likely apply to every farm. The author lives in Wisconsin and so speaks from that experience, but Georgia, North Carolina and every other state in the Union have "little ditches" that may grow if they are not guarded.



These ditches are only three and four years old

Bringing Up Gold with the Plowshare

By Edgar L. Vincent

A LITTLE bit of a cold chill ran up my back this morning when I read in the day's news columns that an investigation is to be made into the causes for the wonderful decline in crops that is taking place in the irrigated lands of the West. The farmer folks of other parts of the country have been looking to those sections which have grown such wonderful crops since we learned the art of watering them with the snows of the hills, and wishing we could exchange our rock-ribbed farms for some of that deep, easily worked soil. But now—well, this comes as a stunner, and no mistake.

The fact is, the problem of soil fertility is with every last one of us. We must meet it, whether our farms lie in the sunny West or among the peaks of the down-east country. No use moving away from the old home environments in the hope that somewhere else we will reach a land where crops will grow with increasing bountifulness forever and ever, no matter how we treat the soil. Everywhere we are sure to come face to face with the fact that crops take something from soil fertility, and that somehow we must put back into the earth a due amount of potash, nitrogen and phosphoric acid, or sooner or later we will suffer loss in the quantity of grain, fruit and vegetables we produce; for, no matter what crop we grow, these three elements enter into its composition.

"I Wish I Could Sift My Farm"

Just to get this before us in as plain and homely a way as we can, let us suppose we had a pair of scales big enough to weigh the soil on an acre of ground down to the depth of one foot. When I was a boy, I used to drive oxen for our nearest neighbor to plow. When the oxen were tired one day, I remember his sitting down on the beam and taking up handful after handful of earth in his fingers and crumbling it as fine as dust and letting it sift down in a golden-brown stream. Then he said, "I wish I could have every bit of my farm taken up and sifted that way, then I would get some crops!" That could not be done, of course, neither could we actually weigh the earth on an acre of land; but men have dug down a single foot, weighed the soil and in that way figured out the weight of a whole acre; and they have found that there are on a piece of land of that size 2,082.5 tons of earth. This was done by actually sifting a cubic foot of earth and throwing out the little stones and other things that would not pass through the meshes of the sieve.

Now, a few years ago some soil analyses were made at Cornell, showing that in fine soil of that locality there were 3,064.9 pounds of nitrogen, 3,784.5 of phosphoric acid and 12,063 of potash. In gravel land a little less potash was found and a little more of phosphoric acid. In different parts of the country the amount of these different elements varies quite widely. Let us take the above figures simply as an illustration of what goes on in the soil through our system of cropping. I have sometimes thought of the soil as the farmer's bank, in which a kind Friend in ages gone by deposited certain funds from which we may draw, but which will surely

be exhausted if we do not put back something regularly. Taking this acre as a starting-point, let us see what happens when we grow a crop, say, of wheat. By careful analysis it has been found that when we take that crop off an acre of ground, we use up 29.73 pounds of nitrogen, 9.49 pounds of phosphoric acid and 13.69 pounds of potash. If we get more than the average yield of wheat to the acre, that is, more than 14 bushels,

every year taking a little more and a little more out of the goodness of the soil. A little calculation will enable any man handy with a pencil to see how long his farm would stand this never-ceasing depletion, provided he did not make a practice of restoring as far as possible the elements he has pulled up out of the earth. This bit of figuring is what the most of us do not exactly like to do. We would rather keep on drawing from our bank, fondly hoping that in our lifetime we shall not exhaust the treasure so kindly bestowed upon us. It is only because we are compelled to think of our prodigality and the absolute wrong we are doing the generations which will come after us that we are brought to give the matter the attention we should. Now we are stirring ourselves and asking, "How can I keep my little store of soil fertility good? I want to do it, not for my own sake simply, but for the sake of the boys and girls I love so well." And we are doing better now at answering this problem than we ever have done before. In various ways we are feeding our lands to bring them back to their old-time state of fertility.

One of the ways we have of increasing our crop yield is to plow deeper. That is like running the hand a little deeper into the pocket it is true, and it does not take the place of adding to our soil nitrogen, potash and phosphoric acid; but it does enable us to make available soil fertility that is really ours and to the benefits of which we are fairly entitled.

Unlocking the Fertility

But will this deeper soil really give us better crops? That homely creature the woodchuck may answer that question for us, wherever he has his home. See what he does by his system of deeper digging. The rankest grass on the farm is right round the woodchuck hole. What has he done? He has brought up some of the fertility that has all these years been locked up waiting for us to make it available. The rains have moistened this soil, the sunshine has warmed it and splendid grass is the result.

So this is a plea for deeper cultivation. I know it will take a little harder work on the part of our horses to bring this rich earth up. And if we had to hold the plow as we used to, our arms would surely ache before night; but the beautiful riding-plows of to-day, which hold themselves, have lessened the work of turning over the soil. We may as well have the extra depth of soil to grow better crops as to let it lie there idle in the dark. On many farms there are layers of what have been called "hard-pan" a little way below the surface. These form tables which hold the moisture and prevent it from finding its way deeper into the earth. They also in some degree form a barrier to the progress of plant-roots downward. Other lands do not present this barrier, but wherever the soil is thus packed down, it needs breaking up.

Drainage will do very much to help about this, and a little raising of the clevis, so that the plowshare will dive deeper, will certainly enable our crops to get hold of and make available the locked-up reserve fertility.

The Birds' Lunch-Counter

By H. W. Wei-gerber



A CHEAP and substantial "birds' lunch-counter" can be made by placing an end of a dry-goods box on a post, three or four feet from the ground. By nailing narrow strips on three sides the seeds will not be blown off, and if slightly tilted, the water can run off, and the snow can be brushed off easier, too. In summer a granite pan filled with water converts it into a drinking and bathing fountain.

For winter feed use chicken-feed (screenings), an ear of corn and meat-bones from the kitchen that contain gristle and fat, or a piece of suet. These things are relished by "our little friends in feathers."

we will, of course, take out still more of these rich elements. Even an apple-orchard that has been in bearing twenty years, with thirty trees to the acre, will take out of the soil about one hundred and fifty pounds of these three elements every year. Corn draws heavily on the fertility of the soil. So does hay, and oats is particularly hard on the average soil.

Make the Plow Go Deep

And we must remember that the ordinary plowshare goes down not more than six to eight inches. And we keep this half-foot of earth whirling over and over,



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The Market Outlook

Problems Relating to the Selling of Farm Products

The Apple-Market What Does It Demand?

THE eastern apple-market is now showing the effect of a big crop of medium to poor grade apples. Instead of barreled stock showing an earned normal increase as the season advances, there seems to be a slight depreciation. The recent warm weather caused much scald and rot in common storage apples, so that stock now being dumped on the market has its demoralizing effect on the cold-storage apples of better grade. That fancy barreled stock is lower than it has been for several seasons may be shown by quoting an authoritative remark from the market at Rochester, New York: "Last year and two years ago, the \$5 mark was reached for fancy Kings. This year the dealers say they are lucky to get \$3.25."

On the other hand, box (one bushel) apples are selling at good prices. In Chicago the average market price for western box apples is \$2. Six weeks ago the average price was about twenty-five cents less. At this writing the average price for barreled stock in Chicago is \$2.95, or about \$1 per bushel. A hundred per cent, therefore, is gained by boxing and taking care of the fruit. Fancy Delicious apples are quoted in Chicago as high as \$4 per box, or about the same amount the fanciest barrel stock of three bushels will bring. This only goes to show that, in spite of the big supply on hand, there is a strong demand for the best fruit in the best pack. Why wouldn't it pay us in the East and Middle West to change our methods of growing and marketing our fruit? A. J. ROGERS, JR., Michigan.

Cattle are Profitable

ALL cattle carrying flesh are now selling for money enough to pay well for the high-priced corn fed them, and there is every prospect and every reason to believe they will be higher yet. Corn in Iowa is very spotted, large quantities being immature and damp. Such corn shelled will not keep, and farmers generally realize this and are wisely selling, as it is questionable if there is much to be gained by holding it.

Six weeks ago I advised prospective buyers to watch the stocker market closely, as it seemed like the low point. Since then stock cattle and feeders have in many instances advanced one dollar per hundred and will be higher before grass. The quality coming to market is common. Men this year who are fortunate enough to have silage to feed to beef or dairy cattle are realizing very handsome profits from their silo investment. Just think a minute on the difference between feeding ten tons of silage from an acre against one ton of timothy, at fourteen to sixteen dollars a ton, and getting practically the same results per ton. I look for some very high spots in fat-cattle trade and regret that I do not just know when the top will be, but cattlemen generally all seem this winter to feel there will be no low spots, but a good, steady, rising market until grass cattle show up again. This is probably one of the best years cattle feeders have had for a long time. It all goes to show that in the handling of cattle the man who dips in and dips out generally gets left and the stayer eventually gets his innings. I may be entirely wrong, but cannot help feeling that American farming is on a stronger and better basis now with our high-priced land than it ever was before. We are going to get high prices for our products for many a long day to come. The cartoon I saw the other day was very pat: It represented the farmer remonstrating with a very thin goose because she had only laid one little golden egg, and the thin old goose said, "How do you expect me to keep on laying golden eggs without food?" If your farm could talk to you, what would it say? W. S. A. SMITH, Iowa.

Sheep Do Not Vary

FARM AND FIRESIDE, for some months past, has been asserting its belief that no permanent change of importance in sheep prices need be looked for until next spring, giving its reasons for that belief. These conjectures seem to have been well founded, and now we must wait for developments which may occur about April. The outlook has become somewhat more complicated by the stand taken by the government as to the wool tariff, but it does not seem that, when decided on, it will affect the wool-growing interests as much as some parties engaged in wool manufacturing and some politicians would have us believe. Anyway, all predictions on the matter for the present are mere guesswork. Some it will hit, others miss. It is curious to notice how little prices have really varied in the sheep trade in a

long series of years. In Buffalo, New York, for instance—as good a market as any, especially for lambs—on the third Monday in December, 1885, 8,000 sheep and lambs averaged \$5.85 per one hundred pounds; in 1895—passing over intermediate years—33,000 averaged \$4.25, and in 1905, in a sudden spurt, the special reasons for which I do not know, 20,000 averaged \$7.10; 1908, 9,000, \$8; 1909, 17,000, \$8.85, the top; and next came the big slide of 1910: 15,000 for \$6.55; three fourths of these were lambs. On the same Monday, 1911, 20,000 head averaged \$6.50. What are the reasons for this generally steady hanging around from \$5.25 to \$7? Is it that it is worth about that amount to raise and market a good lamb, or is it that so many people in every one thousand want about so much mutton, and buyers know the demand and are able to hold prices to about that amount? If the latter is the reason, a general rise seems probable, for the great mutton-eating part of our population increases by leaps and bounds, while the production of sheep meat rises very slowly in proportion. If this turns out to be the case, buyers will lose their grip, and the farmers' chance will come.

Between Farmer and Consumer—What?

What is most needed now is some means whereby farmer and consumer can be brought into closer touch with one another, and it is to be hoped that the evidence in the trial of the Chicago packers may, by disclosing the relations existing between them and the retailers, and of the ways the former have of fixing prices, bring us some solution of the puzzle as to who is mostly responsible for the high prices of meats of all kinds.

As regards retail prices, each dealer is a law to himself. I find one man, doing a large business, selling legs of lamb at 13 cents, loins and ribs at 12½ and shoulders at 10 cents; and in the same city another man, who caters to the wealthier classes, gets 17½ cents for legs, 25 to 35 cents for loin and rib chops and 15 cents for shoulders. These prices are for lambs dressing out from 30 to 40 pounds. The less expensive cuts—necks, breasts, etc.—vary in price from 6 to 10 cents per pound, but these only form about one fourth of the whole carcass. In the cases quoted above one retailer would hardly seem to be coming out more than even, while the other one is realizing good profits.

Secretary Wilson has been going in the thorough way usual with him into this matter.

"My investigation shows that where the consumer pays a dollar for an article of food the farmer gets fifty cents and the other fifty cents disappears somewhere between the farmer and consumer," said Secretary Wilson. "There is something wrong there, and it is up to Congress and the state legislatures to find out what it is. For one thing, there are too many middlemen, and they are combining so that they get too much for their services. In many cases the farmer gets too little for his product because of the rapacity of the middlemen."

At from \$5.50 to \$6.50 per 100 pounds, the careful feeder, taking every advantage that the cost of feeding stuffs admits of, can make a fair and even good profit; but his risks are great between lambing and marketing, and with anything like a run of bad luck, such as may happen to the most careful, his profits soon vanish. Neither packer nor retailer is subject to any such risks. If the latter has losses, they come mostly from reckless buying and giving undue credits; the former is safe in the control he maintains over the prices he pays the farmer; and he takes good care to incur no bad debts—his collectors are on to their job.

JOHN PICKERING ROSS, Illinois.

It's an excellent plan to make a short tour of inspection about the stalls before retiring. The fresh air will do you good, and there's almost always something wrong somewhere about the place—a door or a gate open, some of the stock untied or with a foot over the tie-rope.

Thick or Thin?



TIMID VOICE FROM THE SHORE—"Er—are you quite sure the ice is safe?"

Mid-Winter Hog-Market

THE hog-market lately has been a weekly affair of drop and return. Heavy receipts during the first days of the week lower the prices, and then with the lighter receipts during the latter half the prices come back to about the same figure as the previous week-end quotation. General conditions remain about the same. The large packers are making every effort to hold the market down and are succeeding well. Often they stay out of the yards till afternoon so as not to create competition with the eastern order-buyers and little packers. Little pigs so plentiful a short time ago are scarce, as they now appear at 150 to 175 pounders. These and the medium mixed butcher weights compose the bulk of the supply. Choice heavy-weights continue scarce and remain the top quotation.

The week previous to Christmas proved to have the second largest receipts of the year. In spite of this heavy marketing and of a decrease of 10,000 head in orders for eastern shipments, the price for the week-end was but five cents lower than the previous week-end figures. Since then prices have been on the upward trend. Heavy liquidation in the East has passed its high-water mark and its effect in an increase in orders at the western markets is already manifest. Lighter shipments seem to be the order now. Country buyers are unable to get many hogs at the figure they are able to offer, showing a confidence of the farmers in a rising market in the near future. Yards talent has stated that the holiday prices were pounding bottom and a one-dollar advance during January is a logical expectation.

A new feature has appeared in the Chicago markets. Goodly orders for live hogs are coming in from the districts of Illinois, Iowa and Missouri that were stricken with cholera earlier in the season. Country butchers cannot obtain their hogs locally, and their sales have increased, as many farmers who usually kill their own meat are now buying their pork.

Stags are not selling at the premium that they have enjoyed the past two or three years. The general cheap price of pork has removed the reason for buying them as sausage-material. They are quotable at a figure slightly above barrows of the same class. The packers are making an effort to make buying at present prices appear like a losing game for them. They stay out of the market till afternoon to prevent any rise, but buy the yards clean before night, as they appreciate that they are getting their money's worth. They claim that hogs are not cutting up at a profit, but the liberal buying of the small packers indicates the opposite condition. In order to make the price seem low, they buy many droves around the \$6 mark, but are forced to take many of the 150 to 175 pound class to keep the price at that figure.

Eastern orders take the heavyweights, and the packers, the light and medium weights. Many consider the high tide of the winter's marketing passed and look for a rise as the supply decreases and eastern order-buying increases. L. K. BROWN, South Dakota.

Cost of Producing Pork

EXPERIMENTS of the Illinois Agricultural Experiment Station show that a hog can be made to weigh about three hundred pounds when eight months old on approximately twelve hundred pounds of feed, when fed in a dry lot. Thus it is seen that a pound of pork can be made at the cost of four pounds of feed under dry-lot conditions. It is thought that this might be improved upon when fed upon pasture, but this phase of the subject has not as yet been thoroughly worked out.

If it is considered that feeds can be grown on the farm at the rate of one-half cent per pound, pork could be produced at the rate of two cents per pound for amount of feed consumed in terms of gains made by the hogs, leaving out of consideration the labor involved in feeding. If it costs one cent per pound to produce the feed, then pork will cost at the rate of four cents per pound of gain made by the hogs. If feeds are purchased at the rate of one and one-half cents per pound, it would then cost six cents per pound to make pork under dry-lot conditions. WM. DIETRICH.

Daily Gains in Feeding

JOHN BULL seems still able to beat us in the daily gains made by lambs highly fed for market. In a recent report I find the following gains made by sheep of different breeds. They reckon there in ounces. Leicester, fed by a lady, average daily gains were 10.31 ounces; by tenant farmers, 10.97, 11.10; Lincolns, 12.04; Cheviots, 9.43, 10.56; Southdowns, 8.43; Hampshires, 9.61, 10.04; Shrops, 9.42; Oxfords, 10.11.

The best returns I can find from lambs on forced feed made at our agricultural colleges and experiment stations are an average of about eight to eight and one-half ounces daily gain. I impute this difference to the freer use of roots by the English farmers. Perhaps our use of silage for the purpose may bring us up to them. J. P. R.



There are 704,900 acres of rice in seven Southern States

Rice Culture in the Southern States

By William W. Seals

THE average citizen of this great country has given little thought to the extent and value of rice culture in the South. Rice has been voted a subordinate place, and esteemed as only a minor product of our diversified soil. Few have even taken the time to investigate in order to ascertain the importance of the cereal, and the extent to which its production has gone, not only in other parts of the world, but in America.

An indistinct impression is abroad that the Chinese raise and consume a large quantity of rice, and this is about all that most people know about it.

It is the purpose of this article to emphasize the growing importance of rice as a food product, and to show the increasing attention its culture is receiving in that section of our country in which the conditions are suitable for its growth.

The value of rice as an edible product can scarcely receive more striking confirmation than is given by its extensive use. It is almost the only food of from one third to one half of the whole human race. The population of China is 404,000,000, and rice forms the principal food of its people. India has 273,000,000 people, and the same statement may be made with reference to their use of rice. Japan has a population of 39,000,000, and rice forms 51 per cent. of their total sustenance. The population of the remaining rice-consuming countries of Asia and Africa may be roughly estimated at 80,000,000. Thus it appears that not less than 796,000,000 human beings, or 54.2 per cent. of the total population of the earth, have rice for their principal food. This fact alone stamps it as the earth's most important cereal.

Now, since there is a large territory in our country that is better adapted to the successful growth of rice than anything else, and since much of it is unused, it is the acme of wisdom to acquaint people with the possibilities of rice-farming. If they can be made to see that there is money in it and that there is no more wholesome and nutritious food, rice will soon rival wheat and corn as a crop of gigantic financial value.

It is by no means insignificant now. The present acreage, as far as it has been possible to ascertain it, is as follows:

Arkansas	76,800	acres
Mississippi	3,800	"
Louisiana	371,200	"
Texas	238,000	"
Georgia	2,800	"
Florida	700	"
North and South Carolina.....	11,600	"

The Importance of Rice

This makes a total acreage in rice in the Southern States of 704,900, or not far from a million acres. The crop on this acreage is estimated this year at 5,800,000 barrels of 162 pounds each. The average price per barrel will probably be \$2.50. This will make the gross receipts to the producers \$14,500,000, and the net receipts at least \$12,000,000. The rice-growers are, therefore, not to be despised as factors in the growing prosperity of the South at present, but their number is small, in comparison with the number that will be engaged in producing this great cereal a quarter of a century hence.

A brief examination of its possibilities will show the basis for this prediction.

According to the testimony of leading rice-growers in the rice belt, the production of the cereal appeals to the ambitious farmer through the fact that where rice can be grown it yields better returns in proportion to acreage and outlay than any other crop.

In proof of this, take the case of a small farmer, who has only one hundred acres in rice. He can safely count on 10 bags per acre, or 1,000 bags of 180 pounds weight, each. Deduct 200 bags to pay for his water-rent, and he will have left 800 bags. Deduct 20 per cent. more for labor and for milling, and he will have 640 bags left. If they weigh 180 pounds each, this will give him 115,200 pounds, or 711.1 barrels. If his rice is of first grade, this will bring him in cash \$2,133.30.

Suppose the weather conditions are the worst, and the inferior grades predominate in his crop, and the crop itself is short from various mishaps, he can still count on receiving at least \$1,500 for the rice he has raised on 100 acres. This is unquestionably a greater money value than the average farmer receives from 100 acres in cotton, corn, or wheat. Moreover, he is

able to have a diversity of crops on other parts of his farm, while his rice is maturing for surplus money on his hundred acres, and realize as much according to the land he cultivates as the average farmer, who has no rice.

He can also utilize all the waste from his rice crop, and the bran and polish that may be made from it, to very great profit in feeding and fattening hogs, in feeding cows, and in raising innumerable chickens. Thus a good part of a livelihood may be provided for on the refuse of his rice crop, which is unfit for market. It is clear, therefore, that raising rice can be made exceedingly profitable, and that the rice-grower can attain the very pinnacle of independence and affluence.

Organizing for Profit

This is rendered all the more certain at the present time by the fact that the planters of rice throughout the Southern rice belt are now working together in an organization known as "The Southern Rice-Growers' Association." This was organized in 1910, and already has a membership of about 3,000 living in all portions of the rice belt.

The first regular convention of "The Southern Rice-Growers' Association" met in Beaumont, Texas, in August of the current year. There were more than 200 delegates present from all sections of the rice belt, and they constituted a strikingly intelligent and businesslike body of men. They perfected their organization by electing a company of splendidly equipped



At harvest-time

gentlemen as officers for twelve months, and a well-selected body of directors, and by providing for a very intelligent executive committee.

During the convention some highly important things were done. The schedule of prices for the crop of the present year was fixed, both for Honduras and Japan rice. It was as follows:

No. 1	\$3.00	per barrel
" 2	2.85	"
" 3	2.60	"
" 4	2.35	"
" 5	2.10	"
" 6	1.90	"

A great deal of rice has been sold since these prices were adopted, but the buyers have been forced to pay the convention prices. This means that the rice-grower is no longer at the mercy of the merchant or the miller, but can count on an invariable price for his rice, according to the grade he puts on the market. This is fair to everyone concerned.

The coöperative movement, started just one year ago, has already saved to the rice farmers \$3,000,000 on the rice marketed since that time. Hence, the rice-grower has solid organization back of him now, and cannot afford to withhold his membership from an association that promises so much to him. A field worker was provided by the association, and it is expected that all rice-growers in all portions of the rice belt will soon be enrolled as members of the association.

"Rice Day"

The second important thing the convention did was on the line of advertising rice as a palatable and nutritious food. September 30th was set apart as "Rice Day" on several of the leading railroads and in several of the leading hotels throughout the rice section, the officials readily agreeing to serve rice in more than a dozen different ways on that day, and free of charge to all their patrons. This was carefully carried out, and there are thousands now ready to bear testimony to the value of rice as a palatable food, when they were previously disposed to ignore it. It is confidently believed that through this means the consumption of rice will be largely increased.

The prospect is, therefore, that increased demand will make necessary a larger supply, and thereby render its production vastly more profitable than at present.

Every token indicates great promise in the rice industry in the South. The American people are bound to buy more, and the home prices will make them choose the rice raised within their own territory, rather than imported rice, and the demand of the outside world will soon become so great that eastern countries cannot supply it and a splendid foreign market will open up for the southern rice-producers.

A great deal of attention is being given to rice culture in the Beaumont region, and there are a number of very large growers living in the city which has become famous by reason of its connection with oil.

The confidence of leading business men here in the future of rice is proven by the establishment and successful operation of three of the largest rice-mills in the United States.

These are "The Atlantic Rice Mills Company," of which Mr. W. M. Carroll is president; "The Beaumont Rice Mills Company," of which Mr. J. E. Broussard is president, and the "McFaddin-Weiss-Kyle Rice Mills Company," of which Capt. W. P. H. McFaddin is president. They are all splendidly equipped institutions for preparing the finished product for the markets of the world, and have done a fine business this season.

The last-named mill is of mammoth proportions, embracing fourteen acres in yard and buildings. The main building covers more than an acre of ground, and is several stories high.

Capt. W. P. H. McFaddin, the head of this great mill firm, is a native Texan and a native Beaumont.

He is one of the few men who stay amid the scenes of their boyhood until mature middle life and make large fortunes out of the soil on which their infant feet first rested. He has for a number of years devoted no small portion of his time to rice-growing, as well as to rice-milling, and is an authority on every detail connected with raising and marketing the grain. He has several thousand acres in rice this year, and his extensive irrigation plant, by which the water is pumped out of the

river canal into his private canal, and sent on its way for many miles to give moisture to the growing rice, is a mechanical triumph of giant proportions. This irrigation plant itself cost more than \$200,000, and the entire canal represents an investment of more than a million dollars.

It is impossible to look upon these great structures for the cultivation and preparation of rice without taking off the hat to this queen of the cereals, who is generously distributing rich rewards to all engaged in her service.

Coöperating in Tennessee

By T. J. Brooks

THE farmers of this state own twenty warehouses, a number of cotton-gins, peanut-warehouses, a peanut-re cleaner, fifteen union stores and three strong banks.

In the truck-farming districts the truckers have organizations that do their shipping and look after all shipments for the members.

In the sheep-raising sections, where they make a business of shipping lambs to market, they have an organization through which all the business is transacted.

The greater portion of the coöperative buying and selling in the entire South is the outgrowth of the work of the Farmers' Educational and Coöperative Union. It promulgates the doctrine that there is a science of commerce, and that it behooves the farmer to understand the part that he plays in the business economy of the world.

The farmer is a manufacturer and a merchant. He manufactures from the soil more than is turned out by any other kind of manufacturers, and sells a greater bulk of merchandise than any other class of merchants. If he will assume the carrying function and regulate his supplies to the demands of trade as the rest of the mercantile world and as the manufacturers, he can regulate values in the same way that the price of farm machinery, with which he makes the crop, is regulated to him.

The farmers of the United States have not less than three million dollars invested in various coöperative enterprises, and the movement in this direction is only fairly begun. If the plans proposed and put forth as the line of operation by the last national convention of the Farmers' Union are carried out, they will result in a complete revolution in American commerce.

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Poultry-Raising

Killing Chickens for Market

IT IS only the highest class product that brings the highest selling price in any market. Nowhere is this truer than in the case of food products. Among food products nothing needs greater care to make it really first class than chickens.

It is not enough to grow a good chicken. It must be delivered to the consumer as good as it is grown. How can this be done?

It is too long a story to follow through from beginning to end within the limits of a single article. But first of all the bird must be killed right. In order to kill a bird right, one must begin twenty-four hours before the actual killing takes place.

It is a common practice among farmers and poultrymen everywhere to pick out the birds for slaughter whenever they get ready to kill them. This means that unless the birds are secured before daylight so that the chickens have had no chance to eat anything they will be more or less "cropy." That is, will have grain and other undigested food in their crops.

This is bad practice for two reasons. In the first place, the food in the crop is wasted. A small item perhaps, but an item nevertheless. In the second, the "cropy" bird will not bring as much on the general market as a bird that has been starved twenty-four hours. The reason for this is that no one can afford to pay fifteen cents a pound for the grain in the crop. Furthermore, the carcass will not keep.

As soon as a bird has been killed, the bacteria which cause decomposition begin to work. In order to multiply and carry their work on, these bacteria must have food, moisture and a fairly warm temperature. Most poultry farmers are not situated so they can cool down the birds they kill, and keep them cool. This makes it impossible for them to avoid decomposition starting in at once by changing the temperature.

Let the Chickens Have Water

There is always a big percentage of moisture in the body of a bird. In fact, it runs all the way from forty-one per cent. in the case of a well-fattened capon to fifty-eight per cent. in the case of a hen in full laying. What is more important in this connection is that there is considerable water taken into the digestive tract in drinking. It is, therefore, impossible to check decomposition by limiting the moisture. The only way left to check it is to do away with the food-supply of the bacteria.

The flesh of the chicken will, of course, decompose in the course of time, particularly in warm weather, but the organisms do not start to work in it nearly so soon as they will in the food left in the crop. The microbes seem to have difficulty in working their way through the animal tissues.

If there is food in the crop, however, they will multiply rapidly and soon break down the walls of the crop and find their way into the flesh of the bird.

If large numbers of dressed birds are examined, it will be found that those which spoil first are "cropy." The first indication of their spoiling is the fact that the skin around the crop turns green. The way to avoid this is to keep all food from the birds for twenty-four hours previous to killing. The bird's food acts as food for the germ as well.

Among other things that are overlooked in the proper killing of chickens for market

is proper bleeding. On the farm it is customary to chop the head off. This kills the bird all right, but from the standpoint of the bird's keeping this is a bad practice for two reasons. In the first place, it gives the bacteria of decomposition a chance to enter the body through the exposed end of the neck. The skin should not be broken on a bird that is to be shipped or held. In the second place, the air has access to the exposed blood vessels and the vessels are also badly bruised. This soon causes blood to clot, which stops the bleeding.

Now, while the food in the crop decomposed first, we must take precaution against the flesh decomposing later. We cannot take out all of the moisture of the bird's body, but we can reduce it. This does not prevent decomposition, but it delays it. Therefore, we must bleed the bird as thoroughly as possible.

As noted above, there are two main causes for poor bleeding. First, allowing the air to have access to the cut vessels and, second, bruising the vessels. There is a third cause, that of not cutting the right vessel in the right place.

In the accompanying figure it will be noticed that there are two large veins which



come down either side of the neck of the fowl. These can easily be seen on the live bird by plucking a few feathers from the neck and holding the neck so that they become filled with blood. As can be seen in the accompanying diagram there is a cross-over vein which connects the two large vessels. This vessel does not pass at right angles to the main vessels, but is closer to the back of the mouth on the left side.

To bleed thoroughly, the killing should be done by piercing the brain with a small knife through the mouth. This is called inside sticking and avoids making any exposed cuts. The bleeding should also be done through the mouth, as is shown in the accompanying figure. This avoids exposing the several veins to the clotting effects of the air. The cut should be made at the forward union of the cross-over vein and the jugular vein, thus draining by a single incision both of the main blood-vessels of the neck. And further, the head should be so grasped during the sticking and bleeding that the veins are not in the least compressed. It will be noted that in the accompanying diagram the head is held by grasping the bony structure of the head, thus leaving the softer portions free. A very small amount of compression will cause a bruise. The slightest bruise on the wall of the vein will cause more or less clotting, and clotting prevents thorough bleeding.

WM. A. LIPPINCOTT.

Winter Eggs

THE price of fresh eggs went soaring after Thanksgiving, and just at that time nearly all hens quit laying. They did not go on a strike, but just quit because they had to. I have received quite a number of letters from people in several states asking why the hens do not lay, and how to make them lay. Two farmers wrote that they had about decided to sell all their fowls but about half a dozen, because when the price of eggs was high, they did not lay, and when it was down below cost of feed, they laid steadily.

I have found it very difficult to make people understand that a hen cannot make eggs and feathers at the same time. She can lay while she is shedding her feathers, because there is then no drain on her system for any other purpose. But when the new coat of feathers is started, she quits, simply because she cannot do double duty—make feathers and eggs at the same time. When people learn this fact, they will not expect eggs from a hen that is growing a coat of feathers. And then they may also learn how to manage their hatching and feeding so as to get eggs in the late fall and winter, when they want them badly. And when they learn that there will not be any market for egg-making compounds, peppered stock-foods, panaceas and back-breaking bone-cutters.

Pullets that are hatched early in April will make layers of Thanksgiving eggs if they are fed during the summer so that they will be matured by that time. As a rule people feed their little chicks very well, but when they are pretty well feathered, the supply of food given them is not sufficient to push them rapidly to maturity. There is only one way to feed growing pullets satisfactorily, and that is to keep an abundance

Fountain-Pen

For a Favor

Everyone needs this Fountain-Pen. Farm and Fireside has obtained for its readers a wonderful Fountain-Pen. You can get one without cost.

THE Handy Fountain-Pen is the best pen made for usefulness and wearing qualities. It has a fine, well-made, gold-tipped pen. It is made of vulcanite, which is like hard rubber. There is a close-fitting dust-cap to protect the pen-point. For steady use this pen cannot be beaten. It is easily filled and a filler is furnished with each pen. The special feature of the Handy Pen is its free-flowing ink, requiring no shaking.

You will be delighted to have so fine a fountain-pen. You will have use for it many times a day. It is the most convenient pen that anyone could have. This one is guaranteed to write well.

Our Offer We will send you this wonderful fountain-pen by return mail if you will send us only four one-year subscriptions to Farm and Fireside at special club rate of 35 cents each. Tell your friends that this is a special bargain offer. You can easily get them in a few minutes. Send the subscriptions to

FARM AND FIRESIDE
SPRINGFIELD, OHIO

MAKE HENS LAY

more eggs; larger, more vigorous chicks; heavier fowls; by feeding cut bone.

MANN'S LATEST MODEL BONE CUTTER

Cuts fast, easy, fine; never clogs.

10 Days' Free Trial. No money in advance. Book free.

F. W. MANN CO., Box 32 MILFORD, MASS.

QUAKER CITY MILLS

Made since 1867. Grind Feed, Table Meal, Corn and Cobs, Shuck and Kaffir Corn. Send for all mills advertised on 10 days' Free Trial. Keep the best and return all others. We Pay Freight. Engines, Cutters, Shellers. Catalog Free.

A. W. Sireub Company, Dept. B 3735 Filbert St., Philadelphia, Pa. Dept. Z 3705 So. Ashland Ave., Chicago.

SHOEMAKER'S BOOK on POULTRY

and Almanac for 1912 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickenhood. You need it. Only 15c.

C. C. SHOEMAKER, Box 862, Freeport, Ill.

WANTED: Men to become independent farmers in Eastern North Carolina. The "Nation's Garden Spot." Leads for large profits on small capital. Write for booklet. **O. VAN LEEUWEN, 816 Southern Bldg., Wilmington, N. C.**

GREIDER'S FINE POULTRY

Book and calendar for 1912 contains 300 pages, 72 varieties pure bred, 62 colored plates. Many other illustrations, descriptions. Incubators and brooders. Low prices on all stock eggs. How to raise and make hens lay. Get my plans. They all say it's great—this book—only 15 cents.

B. H. GREIDER, Box 62, Rheims, Pa.

MONEY MAKING POULTRY

Our specialty. Leading varieties pure bred chickens, turkeys, ducks and geese. Prize winners. Best stock and eggs. Lowest prices, oldest farm, 27th year. Fine catalog FREE. **H. M. JONES CO., Box 54, Des Moines, Ia.**

Foy's Big Book MONEY IN POULTRY AND SQUABS

Tells how to start small and grow big. Describes world's largest pure-bred poultry farm and gives a great mass of useful poultry information. Low prices on fowls, eggs, incubators and brooders. Mailed 4c. **F. FOY, Box 10, Des Moines, Iowa**

Latest Book "Profitable Poultry."

120 pages plain, practical facts, 160 beautiful half-tones. Tells how you can succeed with poultry. Tells about big poultry farm. 45 pure-bred varieties. Lowest prices, fowls, eggs, incubators, etc., sent for 5 cents.

BERRY'S POULTRY FARM, Box 39, Clarinda, Ia.

WE PAY \$80 A MONTH SALARY

and furnish rig and all expenses to introduce our guaranteed stock and poultry powders; money-back guarantee; outfit free; new plan; steady work. Address **BIGLER CO., X 600, SPRINGFIELD, ILLINOIS**

125 Egg Incubator \$10 and Brooder BOTH FOR \$10

If ordered together.

Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today.

Wisconsin Incubator Co., Box 88, Racine, Wis.

\$7.35

For this 125 EGG NATIONAL INCUBATOR with 5 YEAR MONEY-BACK GUARANTEE. Metal encased, fire proof, cold, moisture and vermin proof. Hot water-Copper tank-Incubator and Brooder together \$9.35. Write for new booklet.

NATIONAL INCUBATOR CO. N.I.CO.
107 19th St., Racine, Wis.

MAKE YOUR HENS PAY

Our two BIG FREE BOOKS tell YOU how. OUR New 1912 Hatcher and Brooders will give you stronger chickens and will save half the cost. Write for FREE BOOKS today and we will tell you how to MAKE your poultry pay better than the rest of the farm.

Cycle Hatcher Company, 83 Lehigh Ave., Elmira, N. Y.

SUCCESSFUL Poultry Lessons GIVEN

—to Every New Customer

SEND A POSTAL. Get Glycerin's big book FREE and also his facts about his SUCCESSFUL Poultry Lessons given to buyers of

Successful INCUBATORS and BROODERS

Start right for biggest profits. Write to **DES MOINES INCUBATOR CO., 61 Second St., Des Moines, Ia.**

Miller

Wants Your Name and Address

To Mail You His 1912 Poultry Book

MY 1912 Ideal Incubators and Brooders cap the climax of my 25 years' experience. Best I have ever turned out—equal in actual results to the very highest-priced machines—yet a big surprise awaits you when you get Miller's direct-from-factory low prices. A postal brings my Big Book and Special Offers. Mail it today!

I Help You Make Big Poultry Profits

Remember, you get more with the Ideal Machines than with any other. I give you my 25 years' experience as a successful chicken raiser—FREE! I show you just how to set up and operate my Ideal Incubator—make it perfectly easy and simple for you to hatch healthy chicks. Then I stay right by you and show you how to raise 'em! I give you just what I have learned on my Millhook Poultry Farm in 25 years—the successful money-making methods that I have perfected I pass on to you—FREE!

FREE—Write Miller today! Get my wonderful Poultry Book and learn how I help you make BIG PROFITS raising chickens. A postal will do!

J. W. Miller Co., Box 31, Freeport, Ill.
THE CHAS. H. LILLY COMPANY, Western Distributors, Seattle or Portland



Safety Lamp—Safety Burner—Everything Right

Just Send Miller Your Name Now!

JOHNSON Says To Tell You That 325,000 Satisfied Customers Prove the Superiority of "OLD TRUSTY" Incubators

DO YOU realize that 325,000 Old Trusty Incubators have been sold to Poultry Raisers throughout the United States by JOHNSON, THE INCUBATOR MAN, at CLAY CENTER, NEBRASKA? Do you realize that that means 154 solid miles of INCUBATORS set side by side? He wants to refer anybody to all of these 325,000 SATISFIED customers—but

Do you realize that it would take \$6,500.00 for postage alone to write each user of an OLD TRUSTY INCUBATOR a single two cent letter?

Abraham Lincoln said that "you can't fool all of the people all of the time."

Johnson might have fooled 1,000 people on a *poor* incubator—or 5,000 on a *fairly* good machine before the people "got on" to him but he couldn't possibly fool 325,000 bright, up-to-date progressive poultry raisers all over the United States—and if he *had* they'd have sent all their machines back to him because every single one of them was shipped on 30-60 or 90 Days' FREE TRIAL—subject to return at his expense if they weren't satisfactory.

And every one of these 325,000 machines was sold on 30—60—90 Days' Free Trial guaranteed TEN or TWENTY YEARS. What in the world do you suppose Johnson would have done if these customers had sent him back this 154 solid miles of machines?

M. M. Johnson
The Incubator Man

The Best Recommendation For The

"OLD TRUSTY" INCUBATOR

Is The 325,000 In Actual Everyday Use

Clay Center, Nebraska is the center of the world in Incubator making. More machines are made right there in Johnson's factories than in any five cities in the United States. When he started this industry on a 65 cent cash capital, making his first machine for Mrs. Johnson's and his own use in raising poultry for a living, he had no idea of ever offering a single incubator for sale. They had simply worn themselves out trying to make the different machines that they had saved up their money and bought actually hatch chickens, and finally in desperation he told Mrs. Johnson that he was going to make a machine himself that would do the work. And he did. Then he made a few machines for neighbors. Then they went into the business. And every good feature that he worked out he patented, until the present OLD TRUSTY INCUBATOR is a patented machine throughout. No one can sell you the Old Trusty features but JOHNSON—all others are imitations.

Don't you think that the actual experience and the satisfaction of 325,000 satisfied customers is sufficient proof that he is making the machine that you ought to buy if you are going to raise poultry.

He can't furnish you any better proof—and he wants you to prove this to yourself by taking one of his machines on the same terms that these 325,000 customers have bought on, and try your hand at running one in your own way, in your own home. You send it right back to him if it doesn't make good every claim he makes for it—and doesn't satisfy you the same as it has satisfied 325,000 other people. Read the proof in the description: Inner case made of A-grade kiln-dried clear (not a knot in a mile) California Redwood—the most durable most expensive lumber for the manufacture of an Incubator. Round this inner case is placed a complete wall of highest grade Asbestos—and around this comes the outer case of Solid Metal, in handsome mottled finish. This gives you a *triple-cased* machine that is INDESTRUCTIBLE—Fire-proof—damp, proof—and proof against shrinking or swelling of the wood. His cold-rolled copper hot-water heating system (patented) all his own invention—has Safety Lamp and Regulator placed at side of the machine, leaving you a clear table-like top for use in placing egg trays when testing eggs. No extra table required with an Old Trusty.

Johnson's price on The Old Trusty Incubator is just 7% above his actual cost of manufacturing in 100,000 lots, and in making 100,000 of these machines he is able to save in many ways because he buys his materials in such immense quantities and has all the latest and most modern labor, time and expense saving machinery in his factory. That is why his price to you on one of these perfect profit-producing Old Trusty Incubators is less than \$10 all freight paid East of the Rockies.



You are Invited to Send for His Catalog

Some makers call their catalog by all sorts of fancy names—but Johnson calls his just plain catalog because he writes it himself to sell his machines—but in it you'll find all his own actual experience as a poultry-raiser and incubator manufacturer, from the very day he started with a capital of 65 cents up to the day the book went on the press after he sold 325,000 Old Trusty machines. They're

all proud of the Old Trusty out there in Nebraska. They're proud of the fact that they've sold them to people all over the civilized world. They're proud of the fact that Clay Center is the center of the Incubator World—and they're proud of the fact that they haven't a dissatisfied customer that they know of, and that they've never seen an Old Trusty Incubator that was worn out.

Simple, Sure and Trusty For The Largest Average Hatches

If you only knew what these 325,000 satisfied Old Trusty Incubator users know about his machine you'd surely send for his Free Catalog before you buy your machine anywhere else. This Catalog of his is not a work of art nouveau nor is it a specimen of the printers' art de luxe. It's a plain book of actual facts and experiences—full of photographs taken from the thousands and thousands of pictures sent him by his customers telling how delighted they are with his machine and of their successes with it.

Johnson can't bring you to his factory to see his machines but he can send you his catalog if you'll give your name and address on a postal. It's worth a dollar to you whether you buy his machine or not—if it isn't, just write and tell him so and he will send you stamps for its return together with stamps to cover the ones you've used in corresponding with him.

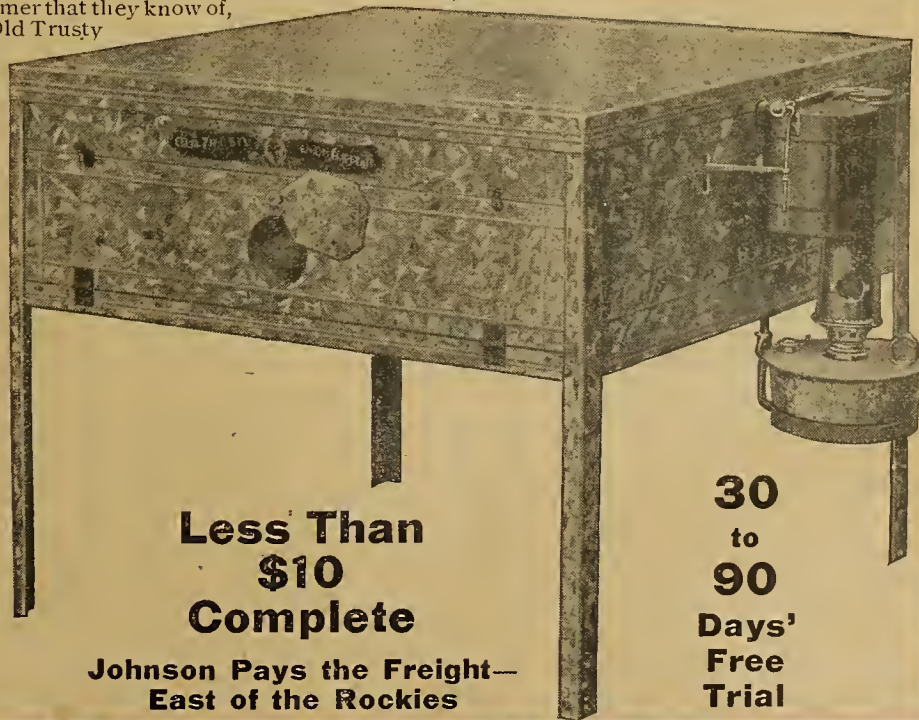
Just a word about the prospects for 1912. It looks as if on account of high prices of all food stuffs and the high cost of living generally that there's going to be more money made out of poultry this year than has ever been made before in the history of the country. Don't you want to get a share of it? Johnson will surely show you the way to do it as he has shown 325,000 other people—if you will give him the chance.

M. M. Johnson, The Incubator Man

With a Score of 325,000 Satisfied Customers

Clay Center, Nebraska

The Place Where Most Incubators Come From



**Less Than
\$10
Complete**

**Johnson Pays the Freight—
East of the Rockies**

**30
to
90
Days'
Free
Trial**

MAKE BIG MONEY With STAHL'S EXCELSIOR INCUBATOR

YOU don't need experience. My 33 years' experience, and STAHL'S EXCELSIOR, the most efficient and most economical incubator you can buy at any price, assure your success. Hundreds of men and women are making \$1,000 to \$5,000 per year extra and easily with STAHL'S EXCELSIOR. You can do it too. STAHL'S EXCELSIOR hatches the largest possible percentage of eggs and is most economical to operate.

1877-1912

ALWAYS AHEAD

Send Today for my **FREE BOOK** "Raising Poultry for Pleasure and Profit." Explains why STAHL'S EXCELSIOR with its many exclusive features is the one you want. Geo. H. Stahl, 414 Oak St., Quincy, Ill.

Hatch Big Profits!

Send postal for **FREE** book telling how the **Galva Hen**—an incubator made entirely of steel, which cannot shrink, swell, warp, split or rot—will help you increase your profits. Book is full of valuable information. Tells how to hatch healthy chicks. Instructive, interesting. Send today for catalog describing this remarkable incubator—the most practical machine ever built. Address

Quincy Hatcher Co.,
22 York Street, Quincy, Ill.

For Only One Dollar

I ship my Right Incubator Hot Water System, Double Walled—Triple Top—Self Regulating with Electric alarm Bell attachment—60-100-200-Egg size—others can claim best, I Prove The Right Is. Send name and address today for full description and how I ship my wonderful incubator for \$1.

H. M. WEBER, Pres't., Right Incubator Co.,
Box D, 38, QUINCY, ILL.

130 Egg Mankato Incubator \$7.25

This high-grade hatcher, direct from factory to user, no middle profits, under binding guarantee and long-term trial. Has three thicknesses of walls, covered with asbestos and heavy galvanized iron, metal legs, copper hot-water tank, self-regulator, high mercury safety lamp, thermometer. Safest made. So simple a child can operate. None better at any price. 17 years' experience. Big catalog free. Brokers, \$2.50 up.

260 EGG ONLY \$10.

Mankato Incubator Company, Box 824, Mankato, Minn.

ERTEL'S VICTOR INCUBATOR

A perfectly designed, strongly built hatching machine, embodying the experience of 44 years.

The **VICTOR** is triple walled, has heavy copper tank, heater and flues; ventilation, moisture and heat regulation all automatic. Every machine fully guaranteed. Write for catalog. Geo. Ertel Co., 210 Ky. St., Quincy, Ill.

FOWLS AND EGGS MORE MONEY IN POULTRY

Our large 1912 catalogue tells how in words and pictures. It is **FREE**. Stock and eggs of all leading varieties—land and water fowls. Incubators and supplies at lowest prices. Booklet, "Proper Care of Chicks"—10 cents.

Royal Poultry Farm, Dept. 180, Des Moines, Ia.

Poultry 47 leading varieties Pure Bred Chickens, Ducks, Geese, Turkeys; also Holstein Cattle—prize winners. Oldest poultry farm in northwest. Stock, eggs and incubators at low prices. Send 4 cents for catalogue.

LARKIN & HERZBERG, Box 64, Mankato, Minn.

43 VARIETIES poultry, pigeons, geese, turkeys, dogs. Incubators, freight paid. Catalogue 3 cents. Missouri Squab Co., Dept. X, X, St. Louis, Mo.

INCUBATORS. NEW MODEL. Eggs visible. Superior to all others. Catalog free.

THE EGYPTIAN INCUBATOR CO., MURPHYSBORO, ILL.

FIFTY VARIETIES pure bred chickens, ducks, geese, and turkeys. Northern raised, hardy and fine in plumage. Prize winners at the world's largest shows. Lowest prices on stock and eggs. Incubators, Brooders, and Poultry Supplies. Large illustrated Catalogue mailed for 4 cents.

C. M. ATWOOD, Box 21, Dundee, Minn.

48 BREEDS Fine pure bred chickens, ducks, geese and turkeys. Northern raised, hardy and very beautiful. Fowls, eggs and incubators at low prices. America's greatest poultry farm. Send 4c. for large fine 18th Annual Poultry Book.

R. F. NEUBERT CO., Box 837, Mankato, Minn.

50 Best Paying Varieties Pure-Bred Ducks, Geese, Turkeys, Eggs, Dogs and Incubators. All at Low Prices. Send 4c. for my Book which gives reliable information worth many dollars to you.

W. A. WEBER, Box 936, Mankato, Minn.

The Sure Hatch is the only Incubator made the Government Way.

Uncle Sam

No other machine has all the features which the government experts say in Farmer's Bulletin No. 236 of the Dept. of Agriculture, that a Perfect Incubator must have. The report made by the government experts proves that the

Sure Hatch Incubator is the best in the world and is years ahead of any other. It has double walls, deep nursery, hot water heater, etc. The most economical to run and easiest to manage—gets best hatches and strongest, highest chicks.

Try it 60 Days Free at our risk—sent freight prepaid. Guaranteed 5 Years.

Early chicks make you most money—write today for valuable **FREE BOOK**.

SURE HATCH INCUBATOR CO.,
Box 66, Fremont, Neb.

of food where they can get to it at all hours of the day. Many poultry-raisers appear to think that the young stock—large pullets and cockerels—do not need so much food when they are apparently grown and doing nothing, and that is where they miss out. Feeding them expensive foods, drugged stuffs, green bone, meat and other things of that sort just when the price of eggs goes away up will not compensate for the lack of an abundance of food when they are growing and maturing, while it is vastly more expensive and unsatisfactory.

One has no need to hatch chickens in winter to get good early fall and winter layers. Hatch them in April, when they come strong, then push them along with good food all summer—right from the time they are hatched to the time they lay their first egg. I have had hundreds to begin laying during the sixth month of their age (this is usually termed by breeders five months) and to lay steadily all winter. I have been breeding for egg yield nineteen years, and it might be said that my fowls have "got the habit," but my experience proves clearly that the habit can be gotten into any good stock by breeding from the best layers, and proper feeding. I have found also that a goodly number of pullets not especially bred for egg yield will begin laying early if hatched and fed as I have stated.

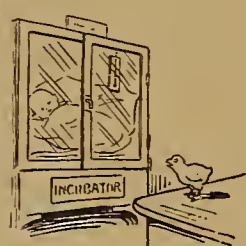
A great many poultry-raisers can point out a few hens in their flocks that they know are great layers. Those are the hens to get stock from. Put them in a small yard or open-front shed, and save a few sittings of their eggs to hatch early pullets from. From the best of these pullets save a few sittings the following spring for hatching, and in a very few years a goodly proportion of the flock will be good layers.

Do not depend on the so-called "secrets" of picking out the layers. I have proved them to be utterly worthless. The principal "secret" exploited is to note the distance between the pelvic bones in judging the laying qualities of a hen. If these bones are wide apart, say one and one half to two inches, she is a great layer. If they are nearer together, she is a poor layer, or is then out of business.

The only reliable way of picking out the laying hens is by the use of trap nests, but very few people will take the time to look after these. Right here I want to call the attention of poultry-raisers to one use the trap nest can satisfactorily be put. When I want to sell off a lot of hens that have arrived at quitting-time, or very near it, I put them in a small yard containing three or four trap nests. In two days I have every one in the bunch that is laying picked out and back in the flock. No one likes to sell or kill a hen that is laying. By yarding two or three days and having trap nests in the yard it is an easy matter to avoid selling or killing a layer.

Don't shut your pullets up in little coops and try to raise healthy layers that way. Give them room for exercise. If you live in town and have only a back yard for poultry, make your run as long and wide as you can, and you will have no difficulty in raising strong, healthy, vigorous layers that will give a good account of themselves.

FRED GRUNDY.



Surprise

My! What a funny-looking chicken in that incubator!

Know Your Business

MANY poultry writers overestimate the poultry business. They make statements that are not borne out by facts. I think that this is wrong. Beginners who have no knowledge of the business have their minds filled with wrong impressions, and embark in the business with false hopes. The result is that in a few months they awake to the truth and quit the business in disgust. They condemn the business and everybody in it and often discourage others. It is better to tell the exact facts so that the would-be poultryman will know just about what he is "going against."

To be successful, one must work and give the business attention.

We have to be satisfied with a slow growth. I have known people who bobbed up like mushrooms in the business, but before long were not heard of again.

A profitable business is not established in a year. The rose-hued arguments of some writers would have us believe that all we had to do in order to reap a comfortable income would be to invest a few dollars in a flock of fowls and a building, and then take it easy the rest of our lives. The profit is in the poultry, but, like gold in the mountain, it takes work to get it out. The business is made of details.

Anyone with ordinary business ability and plenty of stick-to-it-iveness can in a few years establish a nice business which will be both a pleasure and profit.

MRS. B. F. WILCOXON.

White African Guineas

SIXTEEN years ago we secured a pair of these fowls and placed them upon our farm. Since then we have had anywhere from three to ten pairs of these birds about the farm. We have never been able to locate another covey of these birds, pure bred in the state. Hence during those sixteen years we have added no new blood.

These birds are much like quail in various ways, as they mate off in pairs, steal their nests away along the hedge, meadowside or brushy fence-row, where their nest is filled with brownish white-flecked eggs, from eighteen to thirty.

If the season be dry and favorable, the hatch is good, and success in raising them is assured. However, last season being wet we met with no increase, and have but three pairs of birds at this time. These three pairs of birds laid over one hundred eggs this season, which were set under chicken hens. Ninety-six young poults were hatched, but all were lost.

This shows us that in another season these birds should be allowed to hatch and roustabout for their own young. This is the most successful manner of growing them.

The birds seldom come to the house until cold, frosty weather, when they perch during the winter with the hens, but take to the trees about the fields for the night just as soon as the leaves are on.

Their food consists of bugs, worms, hoppers, crickets, weed-seed and grains scattered in the fields. We have never found them destructive in the least, not even in the kitchen garden, where they oftentimes wander.

Their color is against them somewhat, as hawks spy out the young easily. However, they stay secreted in the brush much of the time while small and we seldom see them until they are well grown.

GEORGE W. BROWN.

Ideal Poultry Grass

WHERE anyone has only a small lot to run their chickens in, it is a very important matter to know which is the best grass with which to seed this lot. Of course, clover and alfalfa stand at the head of the list as regards nutritive value, especially when protein must be considered. But where your chickens have to remain in this lot all the year, clover or alfalfa won't do, because when the heavy rains come in the fall or winter and the soil gets very wet, the chickens will take advantage of the situation and pick a great deal of the clover or alfalfa up, and in a short while you will find you will have no stand at all.

Just What the Chickens Need

I have found by experience, where the latitude suits, Bermuda, or what is commonly called wire-grass, is the ideal grass. Let this get a good foothold, and I will defy any chicken to scratch or pull it up, as it takes such a good roothold. It grows to perfection here in Virginia and all fowls eat it with a relish, even the little chicks four weeks old will pick it with seeming delight. This grass generally keeps very tender if you do not let it head. Can run a small machine over it and cut it down if the chickens don't save you the trouble. There is no better grass, the legumes excepted, for horses, cows, sheep and hogs, although for hogs there ought to be some Japan clover mixed in. I would not exchange Bermuda pound for pound for timothy.

Two Strong Points

It will stand trampling and dry weather much better than any other grass that will grow in the South. The best way to get a stand of Bermuda is to plant the roots. There are two ways of doing this. Prepare your land as for any other grass, then open rows with a cultivator—little furrows three inches deep and three feet apart will do—lay the roots in, and cover up. Another way is to take a forked hoe and dig the grass



PEERLESS

SELF RAISING GATE

Discourages the animal that is always breaking out—can't get through, and the barb wire top prevents crowding and reaching over.

The Peerless is extra heavy, frames nearly two inches in diameter; filled with the famous Peerless fencing of all No. 9 wire—a fence that stands the hardest usage. Self-raising—it lifts itself—you don't have to carry it around. Always swings up clear of the ground, over snow, ice or rubbish.

GALVANIZED a heavy rust-proof coat, a coat that lasts. No paint on the Peerless.

Your dealer can get Peerless Gates. If he will not, we will ship to you direct.

Peerless Wire Fence Co., 225 Mich. St. ADRIAN, MICH.

Strongest FENCE Made

Made of **DOUBLE STRENGTH** Coiled Spring Wire. Requires fewer posts. Always tight, is heavily Galvanized with **PURE ZINC**.

Will outlast all others. Sixty different styles and heights to choose from. A FENCE for every purpose.

WE SELL DIRECT TO THE FARMER AT DEALER'S PRICES.

Be your own merchant and put the Dealer's Profit in your own pocket where it belongs. Prices the lowest ever quoted for a first-class fence.

26-inch Hog Fence, - - 15c. per rod.
47-inch Farm Fence, - - 23-5/10c. per rod.
48-inch Poultry Fence, - 26-9/10c. per rod.

Special Barbed Wire, \$1.55 per 80-rod spool.

Biggest values ever offered and sold under our **30-DAYS-FREE-TRIAL-MONEY-BACK GUARANTEE-CONTRACT**. Our big Catalogue contains information you ought to know. Write for it today. It's **FREE**.

COILED SPRING FENCE CO.
Box 30, Winchester, Indiana.

EMPIRE FENCE

Get the genuine EMPIRE big wire fence, direct, at wholesale. Save dealer's profits.

Big Factory, Big Sales, 23 Styles

No traveling salesmen, small expense, prices low. Everything guaranteed. Free samples by mail. Prices of leading styles freight prepaid to all points north of the Ohio and east of the Mississippi River:—

Wires	Inches high	Medium Weight	Extra heavy (all No. 9)
9	39	23c per rod	36c per rod
10	47	26c per rod	40c per rod
12	55	32c per rod	48c per rod

Special rates beyond this territory.

BOND STEEL POST CO., 42 E. Maumee St., Adrian, Mich.

FARM FENCE

11 1/2 cts. a rod

for a 26 in. high hog fence; 16 1-2c. a rod for 47 inch high stock fence; 28c a rod for a 50-inch heavy poultry fence. Sold direct to the farmer in 30 Days Free Trial. Special barbed wire, 80 rod spool, \$1.40. Catalog free.

INTERLOCKING FENCE CO.
BOX 21, MORTON, ILLINOIS.

BROWN

HEAVIEST FENCE MADE

Heaviest Galvanizing We make 16 styles. Horse cattle, sheep, hog, and bull proof fences made of No. 9 double galvanized wires and absolutely rust proof.

Bargain Prices:
13 cents per Rod Up Poultry and Rabbit Proof Fences, Lawn Fences and Gates. Send for Catalog and Free sample for test. The Brown Fence & Wire Co. Dept. 211 Cleveland, Ohio

SAMPLE FREE

FENCE

Sam Thompson's Fairfield Incubator

Guaranteed to Hatch 90% or Better.

No hen in the world will equal this. No other incubator is good enough to be sold on such a guarantee, which proves that the Fairfield way is the best way and that this is the machine for you to buy. So far I have received over 2,000 reports from last year's customers who hatched 90% or better.

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Electric Steel Wheels

up, along with the roots, let them dry, shake all the dirt off, then take grass to the cutting-blade, and cut it up in lengths about two inches long; sow the cut-up grass broadcast all over the field, then get it in by running a disk-harrow over it. Can plant in the spring or early fall. Some people object to Bermuda, because it is hard to exterminate, but it can be shaded out with clover or cow-peas.

Suitable for All Stock

For permanent pasture for stock here, this grass cannot be excelled. Especially is it preëminent in its place—that is, affording an abundance of succulent food in summer when all other grasses have succumbed to a prolonged drought, as was the case here the past summer. Bermuda imparts no bad taste to milk or butter, and the possibilities of this grass as a foundation for the dairyman of the South has not been realized or appreciated in the past; but as our people here are learning to work with their heads as well as their hands, the light will break upon them after a while.

I closely grazed a field for ten years, and after the expiration of that time saw no diminution in stand or sign of impoverishment of the soil. E. W. ARMISTEAD.

a few days. From time to time the bags should be allowed to hang for two days; thus the process would occupy ten days or two weeks. If less time and trouble than this is taken, the feathers are likely to be inferior in crispness, and may become offensive because of insufficient curing and consequent decay. Where poultry has been scalded, it is necessary that the feathers should be first spread to allow the water to dry out before being put in bags. Scalding is not desirable as a rule, because it injures the so-called life of the feathers.

A. E. VANDERVORT.

With the Editor

[CONTINUED FROM PAGE 2]

of an animal with the brain pierced are as purely mechanical as the unwinding of a spring. After the keen knife penetrates the brain, nothing done to the bird can be cruel. So the inconvenience to the bird of hanging head down is only momentary, and ends with the thrust of the knife in the brain. The bird suffers no pain from the introduction of the blade into the mouth, since no cutting is done in the process.

Again, the superintendent is merely silly when he speaks of a twelve-hours' fast as "cruel." Any bird or animal may fast longer than that without suffering. Most of them do so every night. These things make one wonder why persons who know something better than senseless criticism cannot be placed in charge of such organizations.

Two points which this writer makes seem to be well taken. I have never seen the wings locked as Mr. Sixeas recommends, but it seems to me needlessly painful to the bird. Regardless of its legality, I do not believe it should be done. And I do not see why the cutting of the jugular vein should not be done after the brain is pierced, instead of before. After the stroke through the brain, the bird is painless. To shudder at the fact that the picking is done while the turkey is affected by the brain shock proves facility in shuddering—that is all. It is inhumane to ask people to pick turkeys when the feathers come hard, when it may as well be done when they come easy.

If the wings are left unlocked, and the first cutting is made into the brain, this method of killing turkeys is as humane as can be found. It is far more humane than the methods of slaughter adopted in the great packing-houses.

Whether we have the right to kill at all is not the question. But I have never noticed that people interested in the S. P. C. A. are any less apt to eat meat than the rest of us—or wear wool, or leather. Killing is not an agreeable thing, but the partaker is no better than the killer. Nor is the cruelty of the Doukhobor in harnessing up his wife unknown to our more polite humanitarians—who often live comfortably in affluence within sight of a slum where myriads of fellow beings are killed body and soul, and enjoy life right royally.

Robert L. Smith

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BIG full size 140-egg strong, well-made, durable machine that will last a lifetime with proper care—double walls and double doors—dead airspace all over—self-regulator simple and perfect—cold rolled copper hot water heating system—copper tank and boiler—safety lamp that does the work day and night—roomy nursery and strong egg trays—equipped with Tyco's thermometer, egg tester and everything you need including simple instruction book of operating, hatching, and caring for chicks—and the price only \$7.55, all freight prepaid. Read description of Brooder: 140-chick size—hot water top heat—double walls—equipped with metal safety lamp—wire runway yard with platform—guaranteed to raise more chicks than any brooder made—price \$4.85.

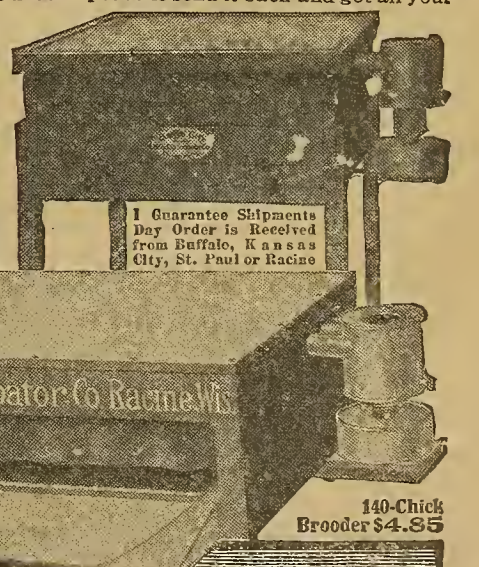
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JIM ROHAN, Prest.
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How to Sprout Oats

ANYONE who has tried sprouting oats for hens realizes their value. Anyone who has not tried them should do so at once. We find this the easiest way for busy folks to accomplish it:

Four short lands are reserved near the chicken-yard for the purpose. As early as possible in the spring we sow one of these lands liberally with oats, and then plow it; this is generally done in the morning or at noon when the team is hitched. At three o'clock the hens are let out of their yard and make straight for this plowed land. To be sure, they get some of the grain at once; they also find a feast of insects and worms, and keep busy until bedtime. Part of the grain sprouts, however. In a few days we take the next land, and so on until the four lands have been covered in about two weeks. Then we begin on the first land again. This time the plowing not only covers the new grain sowed, but turns out the sprouted oats of the first planting. The hens thrive on these oats and are so busy during their few hours of liberty that they neglect visiting the garden and flower-beds. This is absolutely the cheapest way of feeding oats.

In winter we sprout some oats in the furnace cellar, but this means considerable work.

Mrs. GEORGIA L. SELTER.

Feathers

CONSIDERABLE pin-money can be made by properly curing goose, duck, turkey and even chicken feathers. The principal things to remember are never to mix the various kinds, always to separate various grades from each other, and to cure each lot thoroughly before offering for sale. Quills should be one grade, the stiff, smaller feathers another, and the down a third grade, in each kind of poultry. The plumage may be stripped from the quills of the larger feathers and mixed with the smaller ones where only home use is to be made of the product, but for the market this should not be done, as it lowers the grade. Each grade should be put loosely in a large paper bag and hung up in the kitchen or other warm place for



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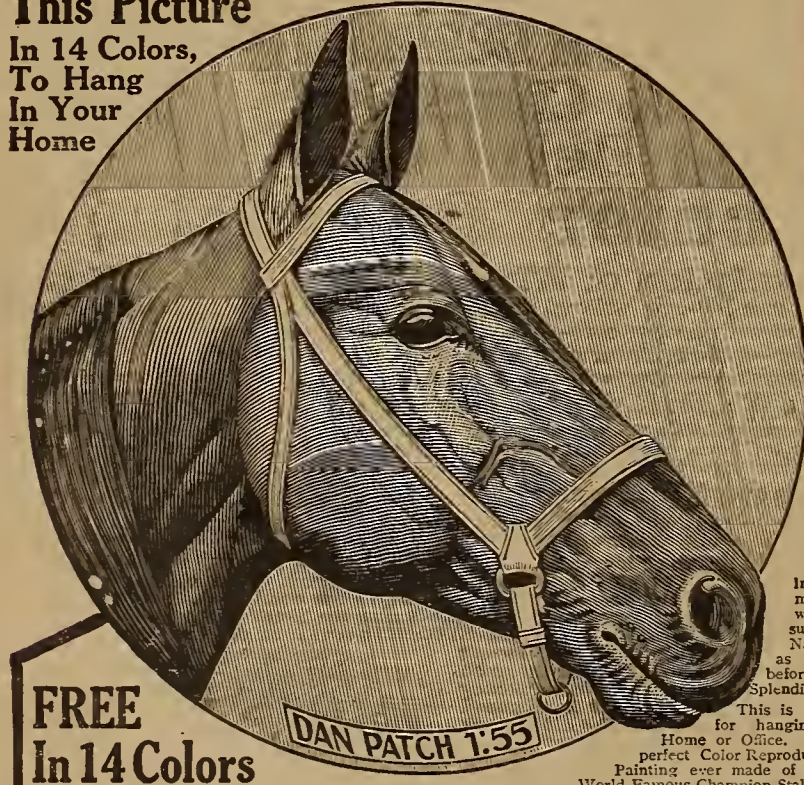
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Dan Has Broken World Records 14 Times. Dan is also Leading 2:10 Sire of the World for his age. Sire of "Dazzle Patch" the Greatest Speed Marvel of the World's History, which paced a half mile in fifty-nine seconds, and one-eighth of a mile in thirteen seconds, a 1:44 Clip, when only 23 months old, in 1911. Also Pearl Patch 4 year trial 2:04. Some of Dan's Colts will be Champion Trotters as well as Pacers. Why not Raise or Buy One!

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Live Stock and Dairy

Two Farms

OUR work in farm management at the Wisconsin Experiment Station brings us in close contact with the farm practice and business management of a considerable number of Wisconsin farms. The data we have gathered show that there is a large variation in the financial returns. It is interesting to note some of these differences and endeavor to discover reasons therefor.

The two farms under consideration in this article happen to be located in Dunn County, Wisconsin. The soil is described by the owners as a sandy loam subsoil. Both of them regard dairying as their leading branch of farming, with swine as a secondary adjunct. A summary of the conditions existing on these two farms the past year, as explained by the owners themselves, is found to be as follows:

	Farm No. 9	Farm No. 12
Area	160 acres	160 acres
Total capital invested	\$19,014.00	\$19,019.50
Total receipts for one year	2,897.50	3,370.20
Total expense for one year	2,706.95	1,669.47
Profits or labor income	\$190.55	\$1,700.73

Comparing the two farms, it will be noted that there is no difference in area, no difference in total capital invested, but there is a difference in both receipts and expenses. Farm No. 12 has the advantage both ways. The receipts of this farm are \$492.70 ahead and the expenses \$1,037.48 below those of Farm No. 9. What are the sources of the increased receipts on Farm No. 12 as compared with Farm No. 9? These may be seen from the following comparison:

THE SOURCE OF THE RECEIPTS

	Farm No. 9	Farm No. 12
Sale of live stock	\$1,086.50	\$1,511.20
Sale of live-stock products	1,250.00	1,329.00
Increased inventory	461.00	530.00
Miscellaneous sources	100.00	.....
	\$2,897.50	\$3,370.20

It will be noticed that Farm No. 12 has the advantage in each item, except miscellaneous sources. The income from sale of live stock exceeds Farm No. 9 by \$424.70, live-stock products by \$79.00, increased inventory by \$69.00.

Examining the live-stock situation more closely, we find that Farm No. 12 fell slightly below Farm No. 9 in the sale of cows, calves and poultry. With hogs, however, the situation is different. Farm No. 12 had fourteen head of grade brood-sows from which were sold \$1,324 worth of hogs, while Farm No. 9, with ten grade brood-sows and eleven

ITEMS OF EXPENSE

	Farm No. 9	Farm No. 12
Stock purchased	.....	\$15.00
Seeds	\$75.00	40.00
Feed	590.00	66.00
Supplies	32.25	18.50
Permanent improvements	461.00	250.00
Rent, taxes, insurance	108.00	68.00
Labor	380.50	260.00
Repairs	25.00	1.00
Miscellaneous	15.00	.....
Decreased inventory	69.50	.....
Interest on investment, 5 per cent	950.70	950.97
Total	\$2,706.95	\$1,669.47

It will be noticed that Farm No. 12 has less expense with every item, except stock purchased. The largest difference is in the feed-bill, \$590 versus \$66, or a difference of \$524. The difference in expense for permanent improvements favors Farm No. 12 by \$211. The next largest difference in the expense-account lies in the labor-bill, there being a difference in favor of Farm No. 12 by \$120. The decreased inventory in Farm No. 9 is caused mainly by there being two less cows at the close of the year. The main items causing the difference in expense then are due to the feed-bill, expense for improvements, labor-bill and the decreased inventory. It should be remembered that expense for improvements also appears as a credit to the respective farms as increased inventory.

Summarizing the results, we would say that both farms may profit to a greater or less extent for the experience of the other. Farm No. 9 should give particular attention to the reduction of the feed-bill and the labor-bill in proportion to the receipts, and at the same time endeavor to secure larger returns from the hogs. D. H. ORIS.

The Difference in Shepherds

LAST year I had an opportunity to observe the difference in results of the management of three flocks of breeding ewes, all of the same origin. All three flocks were of merino foundation crossed up with Shrop blood and came from the range in the northern part of South Dakota. And the returns from each flock should have been about the same in proportion to the sheep owned. But notice what difference in management did.

The owner of flock No. 1 believed in using the best ram obtainable. In the fall he attended a sale of pure-bred Shrop rams, carefully looked over the rams before the auction, and picked his first and second choice rams. When the rams of his choice came into the sale ring, he did his bidding. His rams cost him something like seven dollars apiece above the average of the sale. They were the tops.

The owner of flock No. 2 did not believe in high-priced blooded rams, and he bought two old rams in the St. Paul stock-yards, just scrub rams, for mutton price.

Flocks Nos. 1 and 2 were one car-load, each, of about one hundred ewes, each. The owner of flock No. 3 also believed in the use of good rams, and as his flock consisted of about three car-loads, about three hundred ewes, he sent an order to a reliable breeder for his five best registered rams, and got good ones. So far so good.

Now let's go back to flock No. 1. This young shepherd was a careful fellow and knew the value of feeds and of shelter. In the fall he had an opportunity to buy quite a quantity of good clover-hay and snapped it up at once. His ewes ran in the stubble-fields and corn-fields during the fall and winter and had a little clover-hay at night and a dry shed to sleep in, where they were not too crowded. About six weeks before lambing-time he began feeding a little shelled corn and bran and oil-meal.

Poor Feeding Methods

Now the owner of flock No. 2 thought he knew too much to pay his hard-earned cash for hay, so his ewes got only barley and oat straw in place of clover-hay. In the middle of the winter he all at once discovered that his ewes were getting pretty thin. Corn would fatten them, so he went to feeding corn and fed corn the rest of the winter. His ewes had a comfortable dry shed, where they were not crowded, and they looked as though they were doing well.

The owner of flock No. 3 had clover-hay and corn-fodder and was a fairly liberal feeder, but he had overreached his capacity in buying. He had shed room for only about one hundred and fifty and yet he had some three hundred sheep to start in the winter. His ewes did not do well, they had enough to eat, but they were too crowded in their night quarters, and when the storms of the winter came on, they played havoc in his flock. By the first of January he had lost over twenty ewes, and many more were thin and out of condition, and the whole flock had a ragged appearance. They were

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Dan Patch 1:55 has eaten it Every Day, mixed with his grain, for over Eight Years, just as you eat the medicinal mustard, pepper, salt, etc., mixed with your own food. Minor Heir 1:58½; George Gano 2:02; Lady Maud C 2:00½; and Hedgewood Boy 2:01, have eaten it Every Day for past Two to Four Years and they have all lowered their very low records during this time which is additional, indisputable proof that "International Stock Food" as a Tonic gives more speed and more strength and more endurance because everybody thought these Five Horses had reached their speed limits before I got them. It will also keep your Work Horses fat and sleek and in Extra Strength to do More Farm Work or Heavy Hauling. It Always Saves Grain.

ASK MY DEALER IN YOUR CITY FOR MY STOCK BOOK. International Stock Food is a high-class, medicinal, vegetable tonic and is equally good for All Kinds of Live Stock. I feed it every day on my "International Stock Food Farm" of 700 acres to my 200 Stallions, Champions, Brood Mares, Colts, Work Horses, etc. You can test 100 lbs. or 500 lbs. at my risk. Over 200,000 Dealers sell it on a Spot Cash Guarantee to refund money if it ever fails to give paying results.

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overcrowded and they showed it. Before lambing-time the owner began feeding oat and barley screenings and some bran. They were getting corn in the fodder every morning.

Now, let's look at the lambs. The owner of flock No. 1 just shut his ewes in their big comfortable shed and let the ewes by themselves take care of the lambs that came each night. In the morning he would see that all was well and that each lamb had been owned and was full of good milk. His lambs were strong and vigorous, and their mothers had plenty of milk and so owned their lambs perfectly. He saved one hundred and seven.

The owner of flock No. 2 was having an entirely different time of it. His lambs were coming very weakly and were easily chilled by cold that did not affect his neighbor's lambs. For three weeks he and his good wife were carrying weakly, chilled lambs from the barn to the kitchen fire and back to the barn and trying to get them to suckle their mothers, who had but little milk. These two young people worked hard with their weakly lambs, and were on duty night and day for almost a month. At the end of the time when they could again take a full night's rest they had only sixty-eight lambs.

The owner of flock No. 3 was also having troubles of his own. His lambs were not strong. Lots of ewes were having their lambs ahead of time and the lambs were being born dead, and often the ewes were dying. He also was on duty at the sheep-barn night and day for weeks. At the end of the lambing-period he had one hundred and fifty-two lambs from his original flock of three hundred ewes, but he only had two hundred and forty ewes to turn on grass in the spring. The lambs he saved were well bred and made good gains.

At market-time in the fall the owner of flock No. 1 had made his lambs average ninety-three pounds in weight (Chicago weight). They were fat and had the good, fat backs and good, plump legs of mutton of their full-blood sires. He got \$6.40 per hundred for them. The owner of flock No. 2 made his lambs grow well, too. They looked big, for they were leggy fellows, but they were narrow, just like their scrub sires. Their Chicago weight was eighty-four pounds, but they lacked quality and brought only \$6.15 per hundredweight. The owner of flock No. 3 got his lambs fat, but they never attained the size they should, and when they were marketed, they weighed sixty-eight pounds, but they had quality and were fat and brought \$6.25 per hundredweight.

A Fair Comparison

Flocks Nos. 1 and 3 were on the Chicago market the same day, and flock No. 2 the week following, so I consider it a very fair test of the ability of the three men. They all had much the same opportunity.

There is much food for thought here. Of course, flock No. 1 is away ahead in net returns. The good rams, the good feed of the right kind and the comfortable quarters all helped to make the flock profitable. The owner of flock No. 2 paid dearly for his stinginess in the buying of his scrub rams. They cost him twenty-five cents a hundred on his entire lamb crop. He missed it again by not feeding some protein feed, like clover or bran, in place of corn and straw. This mistake made his lambs weak and caused his ewes to have but little milk. Thus he lost many lambs. The owner of flock No. 3 tried to do his best, but made the fatal mistake of overcrowding. This made him lose lots of his ewes and made many lose their lambs. But his rams were as good as he could get, so the lambs had good quality but they always showed the effect of their mothers' overcrowding all winter. It seemed to stunt them. While they got fat and brought a good price, yet they never attained the size they would have attained had their mothers had proper winter quarters. Had this man put in but one hundred and fifty ewes and used the same care that he did with the three hundred, he would have had more lambs and far more net money.

This all brings up the saying that it is "the man behind the gun." He must be accurate in all his judgments to attain the highest success, no matter what he is doing.

PAUL H. BROWN.

Milking-Machines Work

I now have a great deal of faith in milking-machines. Before securing the one we have I somehow did not believe in them. Our machine here has the best teat-cup on it of any machine manufactured. The same opinion has been expressed by men who are capable of judging milking-machines and who have seen the different machines work. This machine has what is known as the collapsible teat-cup. The pulsating effect is on the whole side of the teat, while other prominent machines get the pulsating principally on the end of the teat.

We have used our machine since last February. There are many questions relative to this that cannot be answered without several years' data. One thing is sure, it milks the cows successfully, and it saves time.

It requires about the same time to milk two cows that it does to milk one cow by hand. That is by using one machine. One man can easily attend to two machines and milk four cows at the same time. After you get the machines started, one can milk four cows almost as rapidly as one can milk one by hand. This is especially true if the cows give lots of milk. One man can attend to three machines after the cows get used to it, if the man will attend strictly to business. Two machines, however, are about all one man should attend to.

If the milking-machine were placed in the hands of the average farmer, it would undoubtedly result in a poor quality of milk. He would not take the proper precaution in cleaning the tubes. The rubber hose needs to be carefully cleaned. We rinse ours every night by suction, and every morning



Milking-machine at work at South Dakota State College dairy

all of the tubes are scalded and cleaned by brushes made especially for this purpose. In addition the man who handles the milking-machine should have a sympathetic understanding of the cow. He cannot hitch the machine on and operate it as though he was hitching onto a barrel. But any man with good common sense and reasonably careful can operate it.

Cows which give any quantity of milk do not object to the machine. Some range cows giving only a small amount of milk object at first, but soon get used to it. Our Holsteins and Jerseys usually take to the machine right away, and apparently they get used to the machine quicker than they do to being milked by hand. Cows having sore teats can be milked much easier with the machine. This is especially true where the collapsible cup is used and the stiff part is made to fit over the sore.

I do not want to say there is always need of hand milking after the milking-machine has finished. We always try the cows by hand as soon as the cups are taken off. The vacuum is shut off from the teat-cups and all of the teats are stripped right into the cups. This does not take a second. We do it for the sake of being sure that the cows are dry.

When the stripping has been done, we open a stop, and the milk in the hose is sipped right into the pail. It is very little trouble to do this. I do not think it is absolutely necessary.

The average dairy farmer, I do not think, should purchase a milking-machine, but the special dairy farmer can use milking-machines successfully. A man who has at least twenty cows and who emphasizes dairy farming will take care of the machine and operate it properly.

C. LARSEN,
South Dakota State College.

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Garden and Orchard

Sub-Irrigation

How it Works on Gardens and Truck-Farms

THAT irrigation is an excellent thing for growing crops and essential for intensive farming for gardens and truck-patches is well and widely known. Also, that tile-drainage is often a good thing for land is fairly well known. There is, however, mixed in between the two another proposition in irrigation with tile-drainage called sub-irrigation that does not seem to receive the attention it should.

Sub-irrigation with drain-tile means the taking of a garden or truck-patch, and laying it with drain-tile just as one would to drain it off, except that the tile are laid closer together and generally perfectly level, instead of with a certain per cent. of fall.

There are known to the writer two instances of sub-irrigation in the grounds of country clubs where four-inch drain-tile was used, laid every eight feet, something like two feet below the surface. What would have been the outlet end in the tile-drainage system was stopped up with brick and mortar, and the intake end was extended up to the surface of the ground by the use of a few joints of sewer-pipe. The plan of using this for irrigating purposes was to turn the water right into this underground system and keep replenishing it as the earth took it up by capillary action and fed it to the roots of the vegetation above. In the one instance the man in charge had so regulated it that he could keep a small stream, that just supplied the needs, running regularly.

The Convenience of It

It should not require any elaboration for anyone to understand how great a convenience this is. It saves sprinkling with a hose or ditching for surface irrigation. There is no special time or attention required to do it. All that is needed is a water-supply, or a hose, or something to connect it.

It supplies moisture to the growing vegetation in the right way, and not only gives better service in the moisture supplied in the surface, but it really effects a saving in water. The evaporation from surface irrigation is much greater than that from sub-irrigation. Besides that, surface irrigation causes baking of the ground and blistering of the vegetation, whereas the sub-irrigation leaves the top of the ground loose and supplies moisture underneath, where it is needed.

In a speech made this fall by President Taft, while out West, he pointed out that the ground water is the most essential constituent of the soil, because solution, circulation and organic assimilation are dependent on water. The question of amount or ratio of water in the ground is a vital one. If it is excessive, it makes a sodden mass,

sticky when wet, but baked when dry, so that there is no possible absorption further into it, and it sends on the water that falls on it, afterward to erode easy slopes.

In some instances it may be practical to make the same system that is used to irrigate it during the summer drain the ground in the early spring by having an outlet that can be closed during the summer and opened in the spring.

Another plan that suggests itself is to have the systems independent, but lay them both at once. One system level and laid comparatively close for sub-irrigation and another system laid anywhere from twenty to forty feet apart for draining off the surplus moisture. This early drainage of the surplus moisture will put the ground in shape for cultivation early in the spring. The sub-irrigation will insure the growth of crops on it throughout the summer and as late in the fall as it is desired to keep things green and growing.

Making It Work

To put this idea into practice where there is nothing but well-water or surface streams in the neighborhood would involve merely the equipment of a local waterworks plant on a small scale with a gasoline-engine, or something of the kind, and the same equipment could be made to supply the house and all domestic needs. Often even a well of sufficient magnitude can be developed and enough water secured in this way to irrigate quite a truck-farm.

"Where and in what kind of soil can this sub-irrigation idea best be applied?" you may ask. The writer asked the same question of T. Bishop, of the Southern Brick and Tile Company, who has put in a number of sub-irrigation systems. His verdict on it is that the sub-irrigation idea can be carried out in any kind of soil, except that underlaid with a stratum of sand and gravel, that would carry off all the water underground, instead of letting it rise by capillary action. Of course, it works well in heavy soil, and it works even in porous soil, he says. It matters not how porous, so that it is a soil of clay formation with a little sand mixed in it. The only ground in which it will not work is that which contains sharp sand and gravel, which will allow the water to filter through and disappear below. He says, too, that the right depth, regardless of whether the soil is heavy or open and porous, is approximately two feet in the ground.

J. CROW TAYLOR.

How is This?

A NEW ENGLAND reader puts forth the following riddle: "A" and "B" will plant an apple-orchard together. "A" is an old man, totally inexperienced, and will furnish all the funds. "B" is an honest, energetic young man with experience, who will in all probability have to do all the work. Is this division of responsibilities equally fair to both? What is the usual plan? Would an orchard of early-bearing trees only be as profitable, all other things being equal, as one of "standards"? How long do these early trees, if well cared for, bear profitably?

This proposition is an interesting one, that of making a rough estimate of the cost of getting an orchard established in New England. It is considerably different in some sections where the cost of land adapted to orcharding is more expensive. I spent five years in Maine, from 1904 to 1909, and there had an excellent opportunity to study the orchard industry.

Some of the best apple-land in the country can there be purchased without improvements for fifteen dollars per acre. You doubtless want to set at least twenty acres in orchard if you were to make a business of it, so we can make the following expense account that would be necessary for the one furnishing the capital in such an undertaking:

20 acres of land, @ \$15 per acre..	\$300.00
1,000 trees, @ 20c each.....	200.00
Fencing	100.00
Spray outfit.....	300.00
Incidentals	100.00

Total\$1,000.00

The yearly expense before the orchard would bear would be something like the following:

Interest on \$1,000, at 6 per cent....	\$60.00
Spraying material, at 5c per tree....	50.00
Fertilizer, 6lb to the tree.....	60.00

Total cost per annum.....\$200.00

If stable manure could be conveniently obtained from city stables, the fertilizing could be reduced to some extent.

I should not advise setting a large orchard of early varieties, but there has been an unusually good demand for choice late summer and early fall apples during the past few years, the prices being somewhat better than for the winter varieties. The market is less able to take care of large quantities of perishable apples, however.

Two or three acres in an orchard of a size referred to can well be devoted to early varieties and care should be taken to select those that will furnish a constant supply

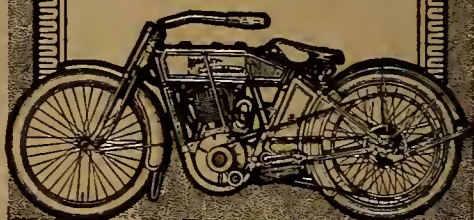
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Selling hay is hard on the land. But at present prices there is good money in the business if you maintain the soil fertility by supplementing manure, sod and nitrate with plenty of mineral plant food—especially

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Annual early spring applications of 50 to 100 lbs. Muriate or 200 to 400 lbs. Kainit and 200 to 300 lbs. acid phosphate are recommended.

A two-ton crop of either timothy or clover takes from the soil about 100 lbs. of actual Potash or as much as is contained in 200 lbs. of Muriate or 800 lbs. of Kainit. The above recommendation supplies some excess of phosphate, but not over one-half ration of Potash.

Write us for Potash prices and for free book with fertilizer formulas and directions.

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coming along without a break until the winter varieties are ready. This will enable keeping a harvesting crew employed to better advantage.

In your section such early varieties as are hardy, set in well-drained soil that is adapted to apple-growing, can be counted on to have a profitable bearing period of fifteen to twenty-five years, if kept vigorous and free from diseases.

I believe an undertaking of this kind can well be tried out by an industrious, progressive young man. During the non-productive years of the orchard truck and small fruits can be made to produce some income from the land, if generous fertilizing is employed.

B. F. W. T.

Why Not Top-Work?

Not only are ninety-eight per cent. of the seedlings that come up in our pastures worthless, but in our orchards are many worthless varieties, varieties that are not suited to our climate and conditions and are worse than worthless, for they take up room that the more valuable varieties ought to have.

Why not top-work them with the most valuable varieties?

You must gradually remove the old top as the new one grows on, for if you remove it all at once there is danger of a part of the tree dying.

Along in February, any time when the ground is not frozen, cut your scions, and pack them in moist (not wet) sawdust. Place them in the cellar. I have kept scions for some time in the cellar wrapped up in a damp cloth.

OMER R. ABRAHAM.



"Two persons will work to better advantage than one alone"

No Trust in Mild Winters

In ordinary seasons our berry-bushes, especially the blackberries and raspberries, have wintered without any or much loss. Here in western New York, where the thermometer sometimes goes down to several degrees below zero, I have generally depended on the hardier sorts, such as Cuthbert red raspberry, and Eldorado, Ancient Briton and other blackberry varieties, rather than planting tenderer raspberries, or the larger but only half hardy Kittatinny, Wilson, etc., blackberries, for which winter protection is required. We have had a few winters, however, during the past two decades, when even the hardier sorts were severely frozen out. It is not so very much trouble to lay the bushes down for winter, and it is a good plan to do it even with the hardier sorts in a severe climate, as must be done with the tenderer ones. The accompanying picture shows how it is done. Usually it is the tip end, rather than the lower portion of the cane, that is in danger. Two persons will work to better advantage than one alone. One handles the shovel or spade. Some soil is to be thrown on and around the "hill." This gives to the "other fellow" a chance to bend the canes over and bring the tip ends down to the ground without breaking the canes at or near the roots. More soil is then to be shoveled upon the tip end, or, if necessary, over the whole length of the canes. The person handling and bending the blackberry-caness should, of course, have his hands protected by a good, strong pair of gloves, as the thorns are sharp. This work can be done at any time before the ground freezes up for good. A full crop of these bush fruits is worth all this trouble, and the home grower especially should not neglect it, unless he lives in a country with rather mild winters.

T. GR.

Wrap the young fruit-trees higher than the rabbits can reach, in order to protect them from the animals which climb snow-piles.

Keep the sweet-potato vines clipped, never allowing them to reach a length of over eighteen inches or two feet, else they will take root and draw the substance away from the main plant, that portion of the vine that produces the potatoes.

If Potatoes Begin to Rot

In this section of Maryland, potatoes are in money this year; and, judging from reports, they will be as hard to find as buried treasure in the spring.

The buyers, here, can't buy them. They can't find them to buy; and when they do get a few, they hang to them. Won't sell for love or money. They are looking ahead. Some farmers did not get their seed back. Very few got enough to pay expenses.

The tubers are worthy of extra care now; and if they begin to rot, sift air-slaked or ground lime over the floor and spread them on it, after removing all that show indications of decay. Then sift the lime over them, lightly.

If they are in the light, so much the better, as long as direct rays from the sun do not strike them.

If you have no room to spread them out, take them from the bins, when they begin to decay, and sift the lime in the bottom of bins and, lightly, through the potatoes as you replace them. This does not injure the potatoes in any way.

It will act as a preservative for apples or onions, when used the same way; but these eatables are better if kept dark and just above freezing.

E. A. WENDT.

Paragon Chestnuts

A few years ago I saw the Paragon chestnut highly recommended for grafting on native stock. I procured some scions and grafted them upon our native-chestnut stock. A late frost killed some of the buds, but a few of them grew. The first year they

made a good growth, and the leaves were nearly twice as large as the native-chestnut leaf. The next year they did not make much growth, and the leaf was not so large. The next year there were several blooms on the grafts. They have bloomed for the past three years, but they have not borne any nuts. The trees have made very slow growth ever since the first year. The native trees are making rapid growth on the same soil, and one young native tree bore some very fine chestnuts this year. They were not as large as the Paragon, but did not lack much of being as large as the sample chestnuts sent me by the grower from whom I obtained the scions.

The Paragon chestnut no doubt is all right where soil and climate suits them, but I doubt the advisability of planting many of them where they have never been tested.

A. J. LEGG.

Although a timber crop requires many years to mature, there is no question of the great value that it represents, and as such a crop can be cultivated on what is ordinarily considered wash land, it is especially worthy of consideration.

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THE truth of this famous "slogan" is attested by thousands of the most progressive planters throughout the world,—who rely year after year upon Burpee's Seeds as The Best Seeds That Can Be Grown! If you are willing to pay a fair price for Quality-Seeds, we shall be pleased to mail, without cost, a copy of Burpee's Annual for 1912. Long known as "The Leading American Seed Catalog" this Bright New Book of 178 pages tells the plain truth and is a safe guide to success in the garden. Do you want it? If so, write to-day! Address

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A practical farm man made just such a trip through Arkansas and Texas. He first stopped at Piggott, in northern Arkansas, went out and talked with Farmer Gray (who bought for \$57 per acre a better improved farm than his Indiana place at \$105 per acre.) He got the views and experiences of other farmers there, asking questions that an experienced farmer would ask who was planning to locate in that section; and took actual photographs of the stock and farms. Then he went to the next county—and so on, clear down to Lufkin, Texas, where J. E. Berry tells of starting with \$12 capital and making \$8300 in 6 years from dairying.

The result is two books with 115 actual photo pictures and 100 pages of plain farm facts, as given by farmers themselves, describing every kind of farm opportunity Southwest. They are the next best thing to an actual trip there, and will show you where your best opportunity is.

I will send you FREE

copies of these splendid books; I will also tell you about the low fare excursions Southwest twice a month via Cotton Belt Route. Write me now.

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Money-Making Farms
Throughout 16 Eastern and Southern States \$15 to \$50 an acre; livestock and tools included with many to settle estates quickly. Big illustrated catalogues No. 34 free. We pay buyer's railroad fare. E. A. Strout Farm Agency, Station 365 Old Colony Bldg., Chicago, Ill.

GARDENING

By T. GREINER

No Value in Size

A FEW days ago I dug our first mess of parsnips. We do not use them until after frost. It is open weather now, and that is our chance to dig a quantity for use during the early part of winter. I find my parsnips only of fair medium size this year. This is probably due to dry summer and fall weather. In other years we often had these roots of very large size. But these smaller ones now are remarkably sweet and tender. When I offered a mess or two to a near friend, she said she would rather have the smaller ones as they were so much better in taste and tenderness. So it is with common potatoes. The three and four pound monstrosities are not wanted in market, and do not even secure the prizes at the fairs any more. The big squashes, on the other hand, usually have the flavor and quality all right. But buyers do not always like them, because it takes only a part of one for a mess, and the other part is liable to get spoiled before another mess is wanted. The smaller sizes of winter squashes are usually in best demand by the average housekeeper. So it is not always size that is appreciated.

Catalogue-Time

Catalogue-time is here again. It is always a pleasure to see and examine the attractive seed-books. We expect to see something new in them, and we are never disappointed. They are of great help to us in planning our next season's garden. We need them to make out our seed-orders. The average American garden-maker seldom realizes what amount of study, and hard thinking, and planning, and patience, and expense the publication of these handsome seed-books involves; and in spite of the fact that they are sent out for the purpose to sell seeds, I believe we are under obligations to the seedsmen for sending them to us free or for a few postage stamps. Some of these seed-books also give quite reliable cultural directions for each class of vegetables. In short, they will keep us busy on many of these long evenings.

Greens by the Cart-Load

Spinach is a good thing for greens, in my estimation the best. I like the taste of it better than of any other vegetable used for that purpose. And so wholesome in its effects, too! But we cannot always have it when we want it. It is not so difficult to grow in rich soil when we have ordinary good fall weather, or from seed sown in spring. But to have it for use in early spring when it is wanted most, at the time when dandelion greens are ripe, we must sow seed in September or October, and frequently it does not winter well, especially if not protected by covering lightly with litter. If we want greens by the cart-load, however, Swiss chard will give us what we want. Chard is really nothing more than a leaf beet and as easily grown as our com-

mon beets. The leaves and leaf ribs are the parts used. They can be cooked like spinach, and are by many considered fully equal to it, an opinion, however, which I do not share. The leaf ribs are sometimes prepared like asparagus, and much esteemed by many. There are many varieties. Lucullus, one of the newer ones, has curly or crinkled leaves, and finds favor with a large number of gardeners. A new French Mammoth grows to immense size, but is said to be inferior in quality to the old ordinary form. Then there are a number of ornamental leaf sorts. At any rate, the chard can well be recommended for trial, and if you want greens by the quantity, nothing else is more liable to give it to you.

White-Breasted Nuthatch

THIS small, friendly bird should be known by everyone. He is so common and is with us throughout the year, yet he is seen by but few people, and when he is pointed out to the unobservant ones, they are astonished that they had never seen him. Of all the native birds at the free-lunch counter, he is the most regular; and, excepting during the breeding season, he is much in evidence in the towns and smaller cities, where he is usually seen, as in the woods, going upward or head downward on the tree-trunks, looking for insects, their eggs or larvæ; and as he works, he is continually uttering his nasal "yank," "yank." He not



only gathers food for the present need, but is always busy storing it for some future day. He always carries away more from the lunch-counter than he can ever eat, but he is welcome to it; for during the winter our native birds are so scarce that we always welcome these small visitors. The suet, too, he likes as well as corn or beechnuts.

Their constant labor in man's behalf makes them a valuable asset to our woodlands; where, even in the "dead of winter" the "bird man" can depend upon finding a small troop of them busily at work.

Their habit of walking upside down on a tree-bark, as well as the black on top of head, slatish blue upper parts and whitish underneath, will identify these, our commonest of birds. H. W. WEISGERBER.

For Spice and Pungency

A Massachusetts lady reader writes me that she has a lot of watercress growing naturally in a pasture-field, and that she would like to be told how it is prepared for market, how it is eaten and what price is usually paid for it. The peculiar pungency of all kinds of cress is very pleasing to my taste. I often grow the ordinary garden-cress in the greenhouse and eat it with or without lettuce as a salad. If I had watercress, I would use it in the same way. More often it is used for garnishing, as parsley is. There is about the same demand for it as for parsley, and it can be handled, packed and shipped in about the same fashion. Gather the new growth, remove old or dead portions, tie in little bunches like parsley, and pack in baskets, tops up, or boxes for near market. It is not even necessary to have running water to grow good watercress. It can be grown in moist soil in the greenhouse, or in any pool, or ditch, or shallow watercourse. All you have to do to start it is to sow a little seed, or scatter a few freshly cut branches along the margin of some watercourse or pool, and nature will do the rest. Almost any seedsman keeps seed of watercress in stock at five or ten cents a packet.

Handling Beets

Keep watch of the beets and other roots in the cellar. They lose in value, in brittleness and plumpness, by wilting. Keep them covered so the water cannot evaporate out of them. If you find any of them wilted, feed them to cattle or poultry at once, and take care of the others so they will not wilt. My cattle and fowls now get their daily rations. It helps to make milk, and to fill the fowls' crops with relished (because succulent) food. Now is the time when we realize the value of beets and similar roots most. Don't fail to make provisions in your plans for next season's garden for a good-sized patch of mangels, carrots and turnips.

Your Farm Will Yield Better Crops If You Use
The Kingman Disc Harrow

The KINGMAN No. 4 Disc Harrow is the product of nearly half a century's experience in building machinery and it embodies the Kingman idea—the ideal combination of great strength, simplicity, ease of handling and thoroughness of work.

The Chief Advantage of Number 4 is the construction of the Genge. The discs are made of high carbon steel, drop forged to shape, INSURING UNIFORMITY. The journals are dirt proof, the bearings of hard maple—the best material obtainable for the purpose; steel weight boxes and rose pattern scrapers. The frame is of triple truss construction, of Bessemer steel.

All Kingman machines are shipped as nearly set up as possible, thus saving customer trouble.

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Send \$3 and we will promptly ship this Stahl Spray Pump No. 30, all brass working parts, fitted with Wing Aerator and one 8-ft. discharge and nozzle. Examine it. If O.K., pay balance, \$5.65. If not satisfactory after 10 days' trial test, send it back at our expense and we refund your money. Send today—we take all the risk.

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written with my 26 years experience—for buying Vegetable, Flower, Grass and Farm Seed, Upland grown Alfalfa, Clover and Field Grass Seed, Seed Potatoes, Corn and Grain, Fruit and Forest Trees, Small Fruits and Flowering shrubs. Freight paid on \$10 tree orders. All Seeds Nebraska Standard. None better.

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These new berries are a great success. They bear fruit every fall as well as spring, three crops in two years. They have yielded as high as 10,000 lbs. to acre in Aug., Sept. and Oct. of first year, with us. We cannot get enough fruit to supply demand. I know of nothing quite so profitable. We are also headquarters for Plum Farmer, Ida and Royal Purple Raspberries, Water Blackberry, Early Ozark Strawberry, Hastings Potato. Catalogue of all kinds of Berry Plants free. Address L. J. Farmer, Box 215, Pulaski, N.Y.

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OLD'S SEEDS are planted every year by thousands of the most successful gardeners. To advertise our seeds we will mail the 20 packets named below for 10c.

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BEST IN THE WORLD
Prices Below All Others

I will give a lot of new sorts without cost with every order I fill. Buy and test. Return if not O. K.—money refunded.

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Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

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Evergreens, Shrubs, Hardy Roses, etc. 1,200 acres, 50 in Hardy Roses, none better grown. 47 greenhouses of Palms, Ferns, Ficus, Everblooming Roses, Geraniums, and other things too numerous to mention. Mail size postpaid, safe arrival and satisfaction guaranteed. Immense stock of **SUPERB CANNAS**, the queen of bedding plants. Acres of **Paeonias** and other Perennials. 50 choice collections cheap in Seeds, Plants, Roses, etc. For Fruit and Ornamental Trees ask for Catalog No. 1, 112 pages; for Seeds, Everblooming Roses, Cannas, Geraniums, Greenhouse and Bedding Plants in general, Catalog No. 2, 168 pages. Both **FREE**. Direct deal will insure you the best at least cost. Try it. 58 years. (25)

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An honest mill sold in an honest way. Try it.

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CATALOG FREE Buy direct from grower—enormous saving—better trees. Apple—one year tops on 3 year roots, 80c per 10, \$70 per M. Other fruit equally low. Five New Strawberry Plants for testing, free on request. We guarantee satisfaction. We pay freight.

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and large instructive catalogue of Best Seeds at right prices. Send 2c stamp for postage. Gardeners ask for wholesale list.

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ELMER B. LACEY, Box 60, Union, N. Y.

Will You Come South

to Gulfport, Mississippi, and stop at the **Great Southern Hotel** this winter? This is a delightful place on the Gulf Coast of the State of Mississippi, midway between Mobile and New Orleans. Many well-to-do Northern farmers and merchants are among our guests every winter. Will you come, too? For descriptive circular address W. D. Driver, Manager, Great Southern Hotel, Gulfport, Mississippi.

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Farm Notes

The Family, Incorporated

FORTY-ONE persons, all closely related, have formed a corporation under the laws of Ohio to conduct a farm enterprise in California. The corporation is called the Kirby Family, Incorporated, and is composed of the father and mother, nine sons and three daughters, together with the husbands, wives and children of the younger members of the company, all aggregating forty-one stockholders.

The father of this numerous family, William Kirby, is president of the Kirby Family, Incorporated, while his wife, the mother of the twelve children, assumes the duties of vice-president. On the board of directors are the older sons and sons-in-law, they being selected by virtue of their greater experience and wisdom in farm management and business.

The corporation is a new enterprise and is somewhat in the nature of an experiment, even in California, where many coöperative and communistic industries have been launched in times past. An initial tract of one hundred acres of land, under complete irrigation and subject to intense farming, has been purchased, and thereon the active stockholders of the company will find employment. The tract, and such adjoining tracts as may be acquired later, will be planted largely to orange and olive trees, while poultry culture and fine-stock raising will be made prominent adjuncts. The company is not a fad, neither is it an experiment in the altruistic; its sole purpose is to make money, the theory being that by combining capital and eliminating waste, after the manner of other modern industrial enterprises, greater advance may be made than where each individual or family is working alone.

The organization is a close corporation, only relatives being entitled to hold stock, and each stockholder has the privilege of employment from the company, if he so desires, at a regular wage or salary. Any profits which may accrue will be realized in the shape of dividends, paid at such periods as the board of directors may deem expedient. The company has ample capital, coming largely from the estate of the elder Kirby, in which he desires his children to share during his lifetime. Farm operations of a wholesale and extensive nature are contemplated as soon as the company can develop its plans. Modern scientific methods will be applied, not only to the crop-growing but also to the farm-management and to the selling end of the enterprise.

In the way of reducing expense and labor, certain coöperative features have been adopted, although each family retains its individuality and the right to expend the wages and dividends of its members as it sees fit. On an elevated portion of the tract already owned, a large cluster of buildings will be erected. In the center of a spacious court, the dwelling of the father and mother will be built, and therein will be arranged a large kitchen and dining-hall where meals for all stockholders and workers will be served, the food being provided by the company. The wives and daughters who help to prepare and serve the meals will be regular wage-earners. Located around the court will be separate bungalows for each of the families and one or more for the unmarried stockholders. Shaded avenues will lead from each bungalow to the main building, and the whole grounds will be beautified by landscape-gardening.

This plan of forming a giant co-partnership by the head of a large family, instead of making unqualified gifts to the sons and daughters, is one which may well be watched with interest. Ever since the Prodigal Son wasted his father's substance, the problem of dividing the hard-earned accumulation of a lifetime so that it might be enjoyed by the natural heirs, and yet conserved and safeguarded, has perplexed the husbandman. Possibly, the Family, Incorporated, and thus bound together by ties of law as well as by ties of blood, is the solution.

Likewise, the coöperation, the elimination of waste and misdirected effort, the loss sustained by buying and selling in small quantities—might this not amount to a sum sufficient to pay a handsome annual profit?

EDMUND G. KINYON.

Pennsylvania Ideas

SPARE time need never be lost time. In winter, particularly, when farm work is slack, I follow up side-lines. On December 1, 1909, I began to canvass among the farmers of the surrounding country for orders for fruit, shade and ornamental trees, small fruits, etc. Within a radius of four miles, and with half a dozen competitors in the field, I had by March 1, 1910, secured orders for stock amounting to upward of one hundred and twenty-five dollars and had received forty per cent commission, amounting to fifty dollars. This was done by working only two days a week. Of course, it was not very pleasant weather on some of the trips and I had to use up a good deal of

"man-power," to say nothing of boot-leather, but for one who takes an interest in meeting all sorts of people those all-day outdoor trips have a real fascination.

After the spring selling season was over and work on the farm finished for the time being, I went out among the farmers painting their wagons, buggies, sleighs, implements, etc. I also paint and decorate the interior of dwelling-houses. With about two dollars expended for a couple of good brushes, putty-knife, sandpaper, etc., I have in three weeks earned \$31.15 over and above expenses, not including money spent for paint and other material. For interior work I get one dollar and twenty-five cents per day and board, and for wagons and implements make a price for each job according to the amount of work and paint required.

Of course, neither method would be available for the farmer of many acres; but to those who, like myself, work only a small ten-acre farm I would say, "Wake up, boys, start something, work at it with a will, and you will never regret it."

VICTOR C. DIEFFENBACH.

The Pumps Can't Freeze

UNLESS the proper precautions are taken, we are apt to find all the pumps frozen tight some of these cold mornings, and what disagreeable work it is to thaw them out. After one or two such experiences we are pretty likely to make up our minds not to let it happen again. If there is no other way to prevent it, wrap the pumps well on cold nights with old blankets or sacks. This involves some work, but not so much as thawing them out the next morning.

W. F. PURDUE.

"Standing Rocks"

THIS curiosity is known as the "Standing Rocks." These rocks are situated on Walden's Ridge, about eighteen miles from Dayton, Tennessee, and about twenty-one hundred feet above the sea. They are be-



tween twenty and thirty feet high; the bases are about five feet in diameter and the tops nearly twenty. The ground on one side drops abruptly a thousand feet into Sequatchie Valley and on the other side into a very deep ravine, and there are no other rocks for several miles around.

MRS. M. E. ENVERARD.

Why Hawks and Owls?

RAPID increase in certain states of the field-mice. These little rodents are responsible for the destruction of countless numbers of fruit-trees, by gnawing the bark just about the surface of the ground, thus girdling and killing the trees. They destroy meadows by tunneling under them and eating the roots. In the fall, when the grass has died down, one can see these tunnels running in every direction. Alfalfa is particularly relished. When they have once invaded a patch, they increase rapidly. If unchecked, they soon destroy whole fields. Large quantities of grain are also destroyed, so they may be classed as a most destructive lot of animals.

A Mistaken Notion

The farmers are responsible in a large measure for the increase of these pests. For years they have been killing off the hawks and owls. Practically everybody who owns a gun does not miss a chance to kill one of these birds at sight. This is all because of the fact that occasionally a hawk will raid a chicken-yard. Possibly some of these birds are killed by the thoughtless because, when sitting motionless, they offer a fine target for the rifle. But more are killed because of the chicken-stealing habit by a few species, than for any other reason. A little investigation would soon convince most people that the destruction of these birds is a mistake, and a serious one, too.

There are about fifty species of hawks and thirty-five species of owls in North America. With the exception of perhaps five or six hawks, which live mainly upon birds, and the great horned owl, these birds are to be classed as beneficial to the agriculturist. It is true that the larger species carry off a chicken now and then. Sometimes an individual will learn the way to a poultry-yard, and, unless killed, will return again and again. Against such as these action must be taken, but this need not prejudice one against the whole tribe. Chickens are but a side issue in the dietary of hawks and owls. Mice and other small rodents constitute the chief food of such of the species as are not

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Send for my wonderful money-saving special spreader offer to ten or more men in every Township I want to place at least ten Galloway Spreaders in every Township in the next six months, and will cut my profit to the quick to do it! Be one of the first to profit by this. My Spreader positively will do better work and last longer than any spreader made—no matter what the price—so why pay \$50 more? My special Proposition will interest you. Just a postal addressed to Galloway of Waterloo, Iowa, will bring you everything postpaid.

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Read every word of this letter written by a prominent hog-raiser, a man of whom you have often heard:

To Whom It May Concern:—
Dover, Minn., September 14, 1911

With reference to the use of Lewis' Lye in case of a Hog Cholera outbreak, I would say that about fifteen years ago a very severe epidemic of Hog Cholera struck our town. Nearly every farmer lost heavily, in fact very few hogs lived through the fall and winter. I had heard of the use of

Lewis' Lye

The Standard for Half a Century

as a preventative. I bought a quantity and fed it daily in the animals' swill. At the time we were feeding nearly 200 hogs. Not one of them took the disease. I used it as a preventative and not as a cure. If we ever have a repetition of the plague I shall resort to the use of Lewis' Lye, in fact it was the only medicine I used during the outbreak stated above.

(Signed) FOREST HENRY,
Prop. Clover Crest Stock and Dairy Farm.

Don't wait until the cholera gets into your neighborhood. Mix a little Lewis' Lye in your hog feed all the time. But be sure you get Lewis'—it's in the can with the Quaker on it. Take no chances with any other, for that's the pure, full-strength lye, guaranteed and sold by

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largely insectivorous. The hawks hunt by day, and the owls, whose eyes are so arranged that they see keenest at dusk and by night, capture the nocturnal insects and rodents not observed by the hawks. Perched on the topmost limb of a high tree, or flying far above the fields, a hawk will see a mouse a quarter of a mile away, or even further, and with a dash at almost lightning speed the mouse will be captured. Not once, but many times every day, will this performance be repeated by the same bird. The marsh-hawk makes its home on the meadows and marshes, and lives almost wholly upon meadow-mice, rabbits, ground-squirrels, lizards, frogs, snakes, insects, as well as some of the smaller ground-dwelling species of bird. An experienced field-man states, however, that, when obtainable, mice constitute the major part of its food. When prey is discovered, the hawk poises for a moment over the spot, and then drops quickly on it, and if unsuccessful, is sure to beat over the same place before leaving. This hawk is probably the most beneficial, as it is one of our most abundant hawks and it is certainly the most active and determined foe of meadow-mice. Although it occasionally carries off poultry and game birds, its value as a destroyer of pests is so great that it should be protected.

The sparrow-hawk, so called from its partiality to sparrows, is hardly ever known to destroy a bird of any kind, but lives mostly on insects, largely grasshoppers and crickets. Some even of the larger species, as the Swainson hawk of the Western States, live almost exclusively upon these two insects.

The Whole Hawk Family

In fact, the food of the whole hawk family will be found to consist principally of insects and small destructive rodents. The species called chicken-hawks, the cooper's hawk and the goshawk are the most destructive of all our hawks. The three look very much alike, and all have a well-developed taste for young chickens. They are often called blue-tailed hawks, all being uniformly bluish gray, top of head blackish, tail crossed by several dark bands, with breast and sides dusky brown. The whole bird seems to be of a blue color above and light underneath. The three different species are so near alike that it is difficult to distinguish one from another.

As a class, the owls are all beneficial, with one exception: the great horned owl. The ordinary food of owls consists of mice, rats, rabbits, gophers, nocturnal beetles and other insects.

The common screech-owls are distributed throughout the whole of the United States. At nightfall they begin their rounds, inspecting the vicinity of farmhouses, barns and corn-cribs, making trips through the orchards, gliding across the meadows or encircling the stacks of grain, in search of mice and insects. Thousands upon thousands of mice thus fall victims to their industries. During warm spells in winter they forage extensively and store up in their homes large quantities of food for use during bad weather. During the summer months, when insect life is abundant, the screech-owl subsists largely on an insect diet. This bird is one of the most nocturnal of the owl family, seldom moving out of its retreat until twilight. But it is all alive when it does stir; not a mouse can move without being observed, and so quick and noiseless is the flight of the bird that few escape.

And what is true with respect to the screech-owl may apply to the whole family of owls. Their economic relations, therefore, are of the greatest importance to agriculturists. The services of the hawks and owls in keeping down the great plagues of mice, rats, gophers, rabbits, etc., cannot be estimated.

WILLIAM PURDUE.

EDITOR'S NOTE—These comments are timely. Some of the same points are emphasized by Mr. Weisgerber in his short talks on birds. And all of the common birds will be noted, and their good and their bad work pointed out during these winter and spring issues. What has been your experience with these birds?

Making Bee Colonies

TO THE professional bee-keeper it is little trouble to make artificial swarms and introduce queens, but for the farmer who keeps only a few colonies of bees and who has always depended upon natural swarms for his increase, the idea of dividing the bees and introducing queens makes him a little nervous. Last year I made three nuclei and introduced queens. Two of them had three sash, each, and were taken from the old hives June 1st. Italian queens were introduced by putting them in and allowing the bees to gnaw away the bee-candy. These two did well and built up into strong colonies before winter. The other was only two sash of brood and the bees that adhered.

The nucleus was put into the new hive June 15th. I had trouble with this hive, as the old worker bees went back to their old hive and brought other robbers, and in a short time had all of the honey carried back to the old hive. I drove the robbers away with smoke, and stopped the hive up so that the robbers could not get in for two or

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three days, and they abandoned the idea of robbery. This colony did not make more honey than they ate until about the first of September. They then put in nearly enough honey to winter them. A little feeding brought them through all right, and they have produced considerable surplus honey this year.

This past summer I made an artificial swarm with three sash of brood and the adhering bees June 30th. After the queen had been placed in the hive in her cage for twenty-four hours, I turned her loose on the brood-frames. It caused considerable confusion among the bees for a while, but I find that the queen is all right and has filled the frames full of fresh brood as fast as the young bees hatch out. The danger of failure by this method is from carelessly putting the old queen in the new hive or putting queen cells in with the brood. This may be avoided by care in looking over the frames before they are put in the new hive.

A. J. LEGG.

For a Straight Pull

THIS three-horse hitch for a wagon I have found to be superior to any I have ever tried. It will give a perfectly square pull and will space the horses evenly on the tongue.

First, cut off the tongue even with front end of the hounds. Then put a piece of strap iron around the front end of the hounds and over the end of the tongue where it has been cut off. Bolt each through so as to hold the strap in place.

Second, take a tongue twenty inches longer than the piece cut off, and place it to the right side of the hounds, using a bolt eight inches longer than the one used in putting the tongue on the hounds, and placing an iron spool between the right hound and the tongue, to make everything solid.

Third, put an iron brace from the right side of the tongue to the stay-chain hook on the front axle. Then take a piece of iron about two inches wide, and put it on the right end of the bolt beside the tongue, before putting on the nut. Fasten the other end on the stay-chain hook, on right end of the axle. This feature does not show in the sketch.

Fourth, take two pieces of iron, each twenty inches long, six inches wide and three-eighths inch thick. Bolt them securely to the tongue, one on the top side and one on the bottom side. Bolt the other end firmly to the front end of the hounds and the stub of wagon-tongue left in the hounds. This will make the tongue work exactly the same as if it were placed between the hounds. Then place the three-horse even on the hounds the same as a two-horse doubletree, and you have the tongue squarely between the two right-hand horses with a perfectly square pull.

T. R. BLACKWOOD.

Work a Pleasure

I WILL give to the readers of FARM AND FIRESIDE a faint idea of how the southern farm women of limited means manage.

As a general thing, we assume the responsibilities of all household expenses, well, I suppose because our mothers did and our fathers allowed them to keep it up. We hoe our own garden, milk the cows, churn, raise all sorts of poultry, run all over the place for berries, instead of having a small patch of cultivated ones near the house. We make our own soap from wood-ashes, meat-scrap, or tallow. We help work the cane-patch and make the sorghum. We help dig the potatoes, pick the apples and sometimes cut our own stove-wood. Some few of us help haul in the wheat, oats and hay. Now and then one drives the reaper, mower and rake. We raise our broom-corn, tie our own brooms, cut rags, and weave our own carpets. Sometimes we card wool for our own hose, now and then making a bit of cloth for every-day towels from cotton and flax. We make all sorts of jellies, preserves, butters, marmalades, pickles, etc., from the many products of the garden, orchard, fields and forest.

But why enumerate? We are never idle. To-day the writer cooked, swept, washed, picked berries, made jelly, jam, picked plums for sweet pickles, and finished washing the supper dishes a bit after dark. Since then I have seen them all to bed and have written this as well. And, answering for myself, we enjoy it.

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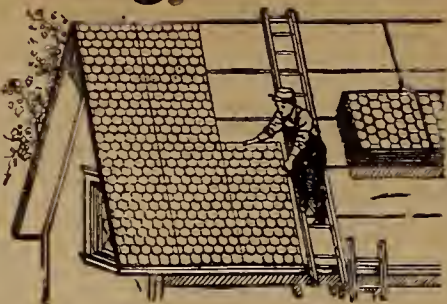
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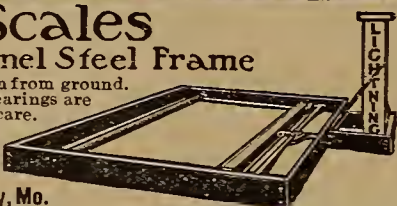


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Crops and Soils

Annual Weeds

ANNUAL weeds are less troublesome and more easily kept in check than others. As they grow from seed each year, the surest way to check them is to prevent the seed from reaching the soil.

A majority of the annual weeds that grow on gardens and farms arise from seed which developed on or near the soil where they are growing. A single plant left to go to seed in autumn may produce seeds by the thousands to spread upon the surrounding ground. Thus, purslane or "pusley" may produce more than sixty thousand seeds, a ragweed more than twenty thousand, and a redroot, or pigweed, more than eighty thousand. If such numbers may develop from one plant, who can estimate the seeds produced in a half-acre garden abandoned to weeds after the crops are harvested? Most of these seeds fall to the soil below, but many may be carried by wind or water to neighboring fields. Evidently clean culture throughout the season is necessary to prevent such seeding.

Weed-seeds are also commonly brought to the field mixed with the manure from the barn. They may have been present in enormous numbers in the commercial stock-feeds fed in the barn. A single pound of some such feeds has been estimated to contain about fifty thousand weed-seeds, many of which are never digested and are ready

to germinate when they are scattered over the field. Consequently, a careful examination of such feeds should be made before purchasing.

Certain kinds of weed-seeds are common impurities of grain, grass and other seeds. Low-priced seeds are especially liable to be thus contaminated. Care in planting only clean-crop seed will save much trouble in fighting weeds.

These and various other ways of getting soils infested with weed-seeds would not be so serious if all the seeds germinated the first year. But only a part of them do so, the others remaining dormant for a variable time, illustrating the literal truth of the old rhyme:

One year's seeding
Makes seven years' weeding.

Tillage is the one great remedy for annual weeds when they have taken possession of the soil. All cultivated crops are kept in good condition by proper tillage, and this



White pigweed seedling. Pigweed is a common annual

routes the weedy intruders. The hoe is generally necessary to supplement the cultivator, and hand weeding is often necessary to supplement the hoe.

And last of all, perhaps the most useful is rotation of crops. The variation in the cultural treatment of the soil from season to season is likely to prove destructive to nearly all annuals.

C. M. WEED.

Make some of these stormy days profitable by sorting and grading your seed-corn for next spring's planting; then test it a little later on, and you will have put your best foot forward in the initiative step of profitable corn production.

Sink a twelve-inch tile, thirty inches long, into the ground where your spouting leaves the house for the cistern. Fill it to within about three inches of the top with charcoal, and you will have as good a filter as those for which you would pay a neat little sum at your dealer's.

Watch the Index

Did you notice that the "Index to Advertisements" on the first page occupied more than a column in the January 6th issue?

The advertising family is getting to be a great big crowd, and they are fine fellows, too. Honest, reliable and ready to serve you promptly and with the best they have.

Use this index as a guide in making purchases. You will find it contains about everything needed in the home or about the farm.

By patronizing the advertisers in FARM AND FIRESIDE you not only get good, reliable goods at reasonable prices, but you also help us along in making a better and bigger paper—and that helps you.

No-Rim-Cut Tires Proved Average Oversize, 16.7%

Goodyear No-Rim-Cut tires are advertised as 10 per cent oversize.

We claim that this oversize adds 25 per cent to the tire mileage.

Lately we made a comparison, based on cubic capacity, with five other leading makes of tires.

And No-Rim-Cut tires, on the average, proved 16.7 per cent larger than the other tires of equal rated size.

Only three tires out of 20 comparisons came within 10 per cent of our size.

That means in air capacity, not in mere

outer measurements. It is air that carries the load.

Each one per cent oversize means one per cent extra carrying capacity.

Oversize means to save blowouts—to increase the tire mileage—to cut down tire expense.

And you get this oversize in No-Rim-Cut tires without any extra cost.

That is one of the reasons why these patented tires now far outsell any other type of tire.

Adopted by 127 Leading Makers

For the year 1910, 44 leading motor car makers contracted for Goodyear tires.

For the year 1911, 64 makers came to them.

For this year we have contracts from the makers of 127 leading cars.

That shows how car makers—the men who know best—have come to the Goodyear tires.

Last year our sales exceeded the sales of the previous 12 years put together.

We sold enough tires in 1911 to completely equip 102,000 cars.

In two years the demand for No-Rim-Cut tires has multiplied six times over. Now these tires are by far the most popular tires that are made.

Thousands of users told thousands of others that these patented tires cut their tire bills in two. The resulting demand now compels a capacity of 3,800 tires daily.

Save One-Half

The saving comes here:

No-Rim-Cut tires make rim cutting impossible.

With the old-type tire—the clincher

tire—23 per cent of all ruined tires are rim-cut. That is proved by actual statistics.

A punctured tire may be wrecked in this way by running 200 feet. A soft tire may be wrecked without puncture.

No-Rim-Cut tires save that ruin and worry.

Then 10 per cent oversize, under average conditions, adds 25 per cent to the tire mileage.

It means an over-tired car to take care of extra weight. It saves the blowouts due to overloading.

And No-Rim-Cut tires, as told above, average 16.7 per cent oversize.

These two features together—No-Rim-Cut and oversize—under average

conditions cut tire bills in two. Tens of thousands of motor car owners have proved that.

No Extra Cost

These patented tires used to cost one-fifth more than other standard tires. Now they cost an equal price.

These tires which can't rim-cut cost the same as tires that do. These oversize tires cost the same as skimpy tires.

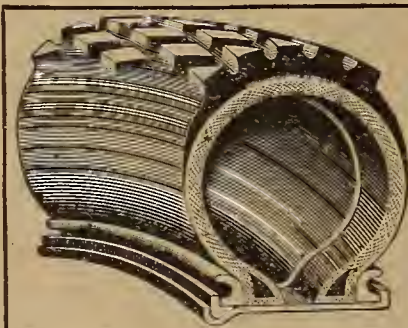
You can get them by simply insisting on Goodyear No-Rim-Cut tires.

These tires represent the final result of our 13 years spent in tire making.

In every way they are as near perfection as tires can ever get.

They will mean to you an immense reduction on the upkeep of your car.

Our new Tire Book is ready. It is filled with facts you should know. Ask us to mail it to you.



GOODYEAR

No-Rim-Cut Tires

With or Without
Double-Thick Non-Skid Treads

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Branches and Agencies in 103 Principal Cities. We Make All Kinds of Rubber Tires, Tire Accessories and Repair Outfits



HAVE you a boy that you would very much like to stay on the farm? I have. And would you like to give him just as much education as you can decently afford? I would.

Finally, are you half afraid of giving him the education lest you educate him away from the farm and into the city? I am.

All right. We're in the same scrape. I've been looking into it recently with reference to the case of my boy, and what I find out is just as applicable to yours as to mine. There is a serious prospect of an educational evolution that will actually recognize the farm boy as a real factor in the scheme of things; that will concede, all too tardily, that education for the farm is worth while, just as well as education for the bank, the law office, the pulpit or the pill-peddling profesh. Everybody with a boy and a farm ought to be for it, and, beyond that, everybody with any intelligent regard for the future of other people's boys and farms and this nation ought to be putting in plugs for it.

How About "Book Farming?"

EDUCATION isn't all inside of books, and farming isn't all outside of them. That's the broad basis on which this vocational education project is being urged, and it sounds exceeding sane. The ancient notion that a "book farmer" is necessarily a fool, or else an endowed chump, is played out. FARM AND FIRESIDE wouldn't have half a million circulation if that archaic doctrine hadn't been exploded long ago. The truth is that the farmers have got a long way ahead of the educational systems. They want and demand more than can be provided for them. There aren't facilities to get it to them.

The facilities are coming. They've been delayed in transit a long time, but they're en route, and after looking at the congressional billing on the legislative parcel I'm firm in the belief that they are not destined to be sidetracked very many more times. If the farmers will make their demand heard, the thing will happen at the present session of Congress.

The other day Vic Berger, the first Socialist that ever broke into Congress, made a speech in the House. Vic is a fine, able, amiable chap who dearly loves to shock people with perfectly calm declarations of radical purposes calculated to scare the daylights out of an average person. On this occasion, however, he wasn't trying to be shocking. He was just joshing the House. It was considering a bill to limit a day's work to eight hours on all government employment and contracts for the government.

"The other day," said Vic, "you gentlemen"—turning toward the Democratic side—"bought the soldier vote with a \$75,000,000 addition to the pension roll. Yesterday you made yourselves solid with the Jew vote by abrogating the treaty with Russia because Russia has refused to accept the passports of American Jews. To-day you are fixing it hunk with the labor vote by passing an eight-hour bill. I congratulate you on the progress you are making as politicians."

Everybody laughed—and everybody knew it was true.

Atop all this there's a determined purpose to make an offer for the farmer vote this session. Both parties are mixed up in it, and for one I want my piece. Can't promise about the vote, but this is one bribe I'm aching to receive. I advise all the rest of you to take yours if it comes your way, and to pull for it to come.

A Revolution in Schools

THIS bribe for the farmer vote consists in the bill "to encourage education in agriculture, the trades, industries and home economics in secondary schools; to aid in maintaining instruction in these vocational subjects in state normal schools; in maintaining extension departments in state colleges of agriculture and mechanic arts." This is the bill that interests you in behalf of that boy. It really aims at a revolution in the whole scheme of rural schools and education in this country.

We have forty-eight state agricultural colleges scattered over the Union; the national government gives an average of about \$90,000 apiece to them annually. They are fine institutions, and everybody is coming to understand that an agricultural college is an institution for which there is a place, and a big one. It isn't a joke or a fake, but a mint; it coins brains and intelligence into money, by way of the tilled field and the feed-lot. But there's one trouble with it. It is stuck up above the

An Investment in Schools

By Judson C. Welliver

clouds, with no foundation to support it; it's a pinnacle without a shaft to rest on. I noticed the Washington monument one morning when a fog obscured its middle, but the apex could be seen above the fog-bank, looking exactly as if it were floating around on an ocean of mist. It was about the weirdest thing I ever saw, but not a bit more weird than the system of agricultural education in this country to-day, with a lot of lofty, impressive, massive agricultural colleges floating around in the clouds with never a suggestion of secondary agricultural institutions underneath to lead up to and support them.

This vocational education bill proposes to provide something for the agricultural colleges to rest on. A mighty long gap it was between the country school I went to thirty years ago, and the one I taught twenty-five years ago, and the college up there above the clouds. There was simply no way to bridge it.

What the farmers have done is to set on foot the movement toward consolidation of country schools, public conveyance of pupils, grading and better organization of schools, and the rest. That is now so far effected that its success, its substantial universality throughout all the rural parts of the country, is assured. The little old red schoolhouse—by the way, why do the rhetoricians always apostrophize it as the "little old red schoolhouse," anyhow? I never saw a red one. They were all white. But that has nothing to do with the point I was making. The little old white schoolhouse is doomed. There will be none left except as treasured curiosities in museums in three more decades. It is giving way at a more rapid rate than we realize to the fine big school-building, with a normal graduate for principal, normal-educated teachers, all modern equipments and facilities, different teachers for the different grades, and pupils hauled at public expense to and from school, morning and night. Do you know that there are over 2,000 of these big consolidated rural schools, right out in the open country, to-day, and that hundreds more are being established every year? And that there have not been to exceed three or four failures since the system was first undertaken? Well, that's all true.

A Practical Education

THIS is the foundation, and a good part of the superstructure, that is shortly to be reared up as a support to the agricultural colleges that now float around on the clouds. About that part of the work we need not worry; it's going to be done just as fast as the people can get around to it. There is a lot of conservatism, and there are lots of people who hold back by instinct. If they were horses, they'd wear out the breeching before they would get the newness rubbed off the tugs.

This system of consolidated and graded country schools, however, will not reach clear up to our sky-floating colleges of agriculture. There remains a space to be filled in by a system of secondary schools, which must be built on the rural system, and carried up to a neat, artistic, working union with the colleges at the top. This is what the vocational educational bill, now before Congress, proposes to provide. Senator Page of Vermont has taken charge of the measure, which originally was sponsored in the Senate by the late Mr. Dolliver. Senator Page is keenly interested in it, and since he became its chief sponsor has made himself an authority on vocational education. If there is any literature on the subject that he hasn't read and digested, the Library of Congress has been unable to locate it. He knows how they make education practical and useful in Germany, in Japan, and everywhere else that the experiments have been tried. He knows the philosophy of education and its evolution, and is steeped in all the lore and all the facts that will be of use in forcing the favorable consideration of Congress. In the House, Representative Davis of Minnesota continues in charge of the measure, and he has strong hope of getting it reported early in the winter.

To begin with, the bill aims to provide instruction in agriculture, trades, mechanics and domestic economics for the pupils that can never hope to get to the colleges.

For the first two years, Congress is to give \$2,000,000 a year to provide for instruction of teachers. The first trouble about trying to carry out a project of this sort is that there are no teachers who know the subject.

Pupils by the million, but no teachers. So for two years the government will provide for the preparation of teachers, in normal schools, agricultural colleges and the like.

After there shall have been time enough to get a supply of teachers equipped to do this work, the government will add \$11,000,000 to the annual appropriation. This is to be apportioned to the states in the ratio of their numbers of people engaged in agriculture. The government does not undertake to provide schools; the states must do that. No state will get its slice of this cash till it is ready with schools, lands, buildings and general educational facilities to do the desired kind of work. Then, and no sooner, the government will come in and, up to the limit of the appropriation, put up one dollar against every dollar that the states will put up, to provide this kind of instruction.

These Schools Will Aid the Colleges

TEN million dollars a year, of government money, will thus go to teach agriculture in agricultural high schools and public schools, and trades, domestic economics, and so on, in the high schools of towns and counties. It is calculated that most all the states will come in very soon to get their share of the appropriation, and that when they are all in, provision will have been made for about four hundred agricultural high schools, or about one to every ten counties in the Union. These agricultural high schools, together with the town and county schools that install these courses, will constitute the connecting link between the consolidated rural schools at the bottom and the agricultural colleges at the top.

It is proposed that courses of study, and the like, shall be arranged in the rural high schools with a view to making the most of those seasons of slack work on the farm, when the boys and girls who have graduated from the rural schools may come in for special study. The winter season would draw especially large attendance. Such thoroughly practical subjects as soil chemistry and what it means, how to rotate crops for particular soils and conditions, how, when and with what to fertilize, selection of seeds, breeding of all kinds of farm stock, all the thousand things as to which scientific knowledge is of the greatest value, will be taught.

You will observe that this plan proposes to make the states do the bigger part and pay the larger share of the expense. Will they be willing to do it?

That question was asked by a doubting Thomas Secretary Wilson recently.

"You don't know a state legislature," replied the Secretary. "I do. I've been a member."

"Why," he went on, "this bill would give Iowa about \$200,000 a year. If it were passed to-morrow, that Iowa legislature would be so excited about instantly pulling in that big bunch of federal money that it would probably call a special session to make arrangements to carry out the state's end of the contract. They'd be so afraid of letting it get away just for one year that they'd spend as much money getting ready to use it as the government would provide. Don't worry about the states overlooking anything that Congress offers them. They're always there ready to seize it."

Why Not Start Some Excitement?

THE Secretary is right about that, according to rural town observations. There may be some backward states, but they are scarce. The South is all excitement over this plan, because it has been getting most of the demonstration work, with demonstrations of scientific farming for neighborhoods, that the Department of Agriculture has been doing so widely in recent years. The South knows. It wants all the scientific agriculture it can get, because it has tried and profited. It knows the thing pays. It has seen the rice industry built up and the boll-weevil subdued by dint of scientific methods. It sees its fields producing terrific crops of corn and its feed-lots turning that corn into stock simply because the book-farmers came, showed the trick, and the people are all performing it now.

So far as we have gone with this practical education it has proved that it pays. It has been a good investment. We collect on it every year. The Page-Davis measure proposes to give a vast deal more, and it ought to be pushed along. It will be law, in some form or substantially different from its present draft, within very few years. How long the delay depends largely on how excited you farmers get about it. Now is the time to start the excitement.

The Road to Happiness

A Story of the Common Lot

By Adelaide Stedman

Author of "Poor Relations," "Miracle," "Intellectual Miss Clarendon," Etc.

Part V.—Chapter X.

THE name of Jacob Jordan meant absolutely nothing to Mr. West, so he went blandly on with his negotiations, entirely unconscious that he was deftly snarling the affair he sought to arrange so neatly.

However, when it came to a question of price, he found the amount desired by Mr. Jordan absurdly high; and after a few minutes' argument, that gentleman said placidly:

"After all, Mr. West, I am not so anxious to sell, but I should like to accommodate Mrs. Taylor and her daughter. I know them, and theirs has been a terrible experience. I believe you said that Miss Sandford wanted the house for them?"

"Yes," the little clerk nodded, crestfallen by this sudden failure of his efforts.

Mr. Jordan seemed to meditate a minute, while he looked at Mr. West searchingly, trying to fathom what lay beneath his colorless exterior. Always playing a rôle himself, it was difficult for him to believe that a man could ever be just what he seemed. Presently, however, he went on with a little satisfied smile.

"I think I might arrange, though, to have the mortgage renewed, and Mrs. Taylor could simply pay us, instead of Miss Sandford, the rent and interest."

"You are extremely kind! Unless I am mistaken, Miss Sandford will be more than pleased by such an arrangement."

"I shall be delighted to accommodate both ladies if I can in the way of business. There is only one difficulty," Mr. Jordan paused to collect his thoughts, then went on carefully. "As I said, Mrs. Taylor and her daughter are personal friends, so of course I don't want them to consider themselves under the slightest obligation. In fact, I feel extremely delicate about the whole affair."



"The hurt, hunted look on the girl's face"

and it seems to me the only way it can be managed is for us not to appear in it at all. Don't you think so?"

Mr. West smiled comprehendingly. Entirely unsuspecting, Mr. Jordan's apparent disinterestedness impressed him most favorably and he said, "I should think we could arrange that!"

"Good!" Mr. Jordan exclaimed, "then to business!"

In a half-hour, the plan was made. No one, not even Miss Sandford, was to be told anything, except that these were the only terms Mr. West had been able to make with the Home Real Estate Company, which held the property. Mr. Jordan's affiliation with it was very recent and practically unknown.

So great was that gentleman's personal charm and cleverness that Mr. West was delighted with the arrangement, and his telephoned explanation to Miss Sandford called forth such cordial praise that his smile gleamed for the rest of the day.

Jacob Jordan, sitting in his office, going through the routine of business, smiled also from time to time. He had acted on impulse, and pretending even to himself that he was a gentleman at heart, he did not ask him-

self his motive, he merely smiled from time to time, and his expression was not one of disinterested kindness.

Caroline and Frances began preparations for turning the old-fashioned residence into a boarding-house almost immediately. Of course, as they had expected, Mrs. Taylor rebelled bitterly against such a "plebeian occupation!" She raged and wept alternately, then abruptly became reconciled, secretly convinced that nothing would make her daughter so docile as a trial as breadwinner.

No one even questioned the business side of the venture. That was left entirely in the hands of Mr. West.

Thanks to Caroline's generous help, the furnishing proceeded satisfactorily, and Frances, to her own amazement, felt lighter hearted than she had since the catastrophe. The consciousness of action soothed her. At least she was not sitting idle. She was doing something!

A few pieces of furniture of no great intrinsic value had been saved from the old home, and the placing of them was the one melancholy hour during the moving, the climax of which came when Frances discovered with a shock that the old highboy of her father's had never been emptied! There were the drawers full of shirts, collars, ties, all the intimate personal apparel which speaks so strongly of the personality of its owner, his likes and dislikes.

The simplicity and inexpensiveness of her father's belongings struck the girl now with painful meaning; and suddenly gathering up a few plain black ties, all slightly frayed and worn, she kissed them passionately, crying in an agony of remorse.

Caroline heard her, and hurried anxiously into the room.

"Oh, Caroline," Frances sobbed incoherently, "he gave up everything for us! He never would wear jewelry—and—always had the simplest things—but I never dreamt why! Where do you suppose he is? It would all be so different—if he came back now!"

For an instant Miss Sandford turned white. "He will come back! I know he will!" she declared with unusual vehemence, then went on more mildly. "The detectives are still searching."

For the first week in the new house, as Mrs. Taylor, who during the moving had worked with the transparent intention of showing her efforts to be helpful, retired to her room, worn out by what she called "her unaccustomed exertions," Caroline stayed with Frances, went to market with her, showed her how to keep accounts, and in every way tried to make the pitifully inexperienced girl into an efficient housekeeper. She well knew that Mrs. Taylor, with her persistently extravagant ideas, could never be of any real assistance.

At last good fortune condescended to remember the girl she had apparently forgotten, and even Frances's ignorance of money proved a help for once, for the expensive and exceedingly attractive advertisements she put in one of the dailies secured her four boarders, a young married couple and two elderly ladies, within the first five days.

She had moved in on Monday, and the following Saturday Caroline left. Frances went with her to the door, and lingered there enjoying the cold winter air, long after Miss Sandford had gone. A gentle melancholy had replaced her gloom, and she gazed meditatively at space, a pensive little smile on her lips, as she thought over her unexpectedly fortunate week.

It was exactly a fortnight from the time Jacob Jordan had written her his egotistical letter, and though she had forgotten the fact that he had declared his intention to call on that date, he had not. In fact, just as Frances was standing in the doorway, he, after an inquiry at Caroline's to make his coming seem natural, was hurrying toward the house.

Half-way up the block he saw the girlish figure prominently outlined against the dark interior. It was the sunset hour, and Frances's face was shining in the mellow golden light as she gazed straight at the changing beauty of the sky.

The man's heart expanded in quick appreciation of her loveliness, and he vowed once more to win her, as he sprang up the steps, exclaiming ardently,

"Good-afternoon—Miss Taylor. You look the very spirit of the hour!"

Frances started in evidently unpleasant surprise. She had intended to dismiss him with cold dignity when he called to see her; but the new feeling of security her independence had given her, together with the unveiled admiration on his face, brought back a little of her old coquettish perversity, and she answered:

"Then you don't think that living the life of—'genteel poverty' has spoiled me yet?"

Jacob Jordan flushed at the unexpectedness of her retort. He had been prepared to have her use any weapons against him but his own. He looked at her.

"I see that two weeks were not enough," he said with

an uncomfortable laugh. "Nevertheless, now that I am here, be merciful, my dear little lady! Temper the storm of your wrath, or at least let the condemned speak!"

Frances saw with satisfaction how nettled he was, and went on with assumed indifference:

"I'm not at all angry any more. Indeed, I'm grateful to you. As you wrote, I wasn't sure of my own feelings, but your very frank letter crystallized them nicely. After receiving it, I knew that I preferred to keep a boarding-house even rather than give up my 'youthful illusions.' I'm not quite as useless as you thought me. Won't you come in and see how comfortable we are, Mr. Jordan?"

The man followed her, silenced, acutely conscious that she had changed greatly during her two months of adversity.

For a few moments they talked, then Clara, the colored waitress, put her head in at the door, saying in her slipshod voice: "'Scuse me, Mis' Frances, but can I see you jes' a minute?"

"Certainly," the girl answered calmly. "Pardon me a moment, Mr. Jordan?" but the color in her cheeks as she left the room told the man that she knew he was contrasting this untrained negro girl with their former servants, who moved quickly and efficiently.



"The pitiful words leaped to Norman's lips"

"Cook says the stove won't work!" he heard her giggle. "She's on a rampage and won't start dinner until it's fixed."

"I'll send for someone," came the girl's answer, then after a moment he could hear her calling to the servant who had evidently started away.

"Who—who fixes stoves, Clara?"

Suddenly his cynical smile reappeared, and he stopped listening. What an idiot he had been to take her momentary triumph so seriously. She was just as unexperienced, just as untrained as ever. Once more the thought that he owned her house produced a feeling of elation, but he left it unanalyzed as before.

Frances returned to the room very much subdued. Abruptly it had come to her that the weeks' success had been almost entirely due to Caroline, and a touch of the terrible old feeling of helplessness swept over her, bringing with it a return of her fear of Jacob Jordan. The rest of his call was a torment, and after he had gone she sat for several minutes in the big dim parlor, shivering with the old nervous dread of the future. However, the month had brought one change. Now she had no time to indulge in self-pity; but quickly collecting herself, she went to the kitchen to see the cook about the stove.

Chapter XI.

ONE afternoon, a month and a half later, Norman rang for Mr. West, and as soon as he appeared said, glancing at a letter on his desk, "Look in the paper and find some advertisements of good boarding-houses. A cousin of mine from Wisconsin is coming to New York to study music, and she has written me to find her accommodations. Bring me a list of addresses as soon as you can. I'll look at some places this afternoon." He spoke wearily, then as Mr. West murmured an assent, he mechanically returned to his work, and the little clerk's watchful eyes observed once again that much of his employer's old zest in his profession seemed gone.

Once back in his own office, he sent for a paper, then pondered pityingly over Norman's continued melancholy. At first he had merely [CONTINUED ON PAGE 31]

WASHING MADE EASY

No Lifting,
Rubbing or
Twisting.

No Headache,
Backache
or Tired Feet.



The Roanoke Power Washer and Wringer

does all the work, washing and wringing by same power, at same time. Clothes cleaned perfectly in a few minutes. Quickly pays for itself.

Only practical, efficient washer with movable power wringer which slides along washstand and wrings either from wash tub or rinse tub. No cogs, chains or sprockets to get caught in. Use any power, gas engine or electric motor. Big wash costs 2 to 3c. Write today for Free Illustrated Booklet with prices and 14 Day Free Trial Offer.

* Dealers, write for our special proposition.

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Accept This Swell \$25 Suit

One of Many Styles

Yes, to-day, we start our well-dressed sales representatives out looking right—we send our outfit free, at once, biggest and best sample books, attractive fabrics, handsome color plates, with our new, remarkable, easy money-making offer, your extra sample suit offer as well. Swell-dressed, and backed by us, you can make big money showing our superior line of men's suits and overcoat samples—orders come thick, fast and easy. Spare time or all of it. No money or experience necessary. No references or red tape. We trust you absolutely.

YOU CAN MAKE \$5 Per Day Easy or \$30 to \$50 a Week

Other agents are—you can do as well or better. Exclusive territory and special inside wholesale price so you can undersell all competition and make big profit. When your friends see your suit they will gladly order these swellest, hand-tailored made-to-measure garments. They will save \$3 to \$5. Suits, \$3 up. Fit, workmanship, material guaranteed by bond. Finest for style, looks and wear.

We back one man this way in each locality. Chance of your lifetime. **SEND NO MONEY** to get swell clothes and make most money. Get in quick. No risk. Everything sent express paid. Hurry up postal today.

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SAMPLE SUIT Everything in Just for you. **FREE To You OUTFIT**

Work at Home Weaving Rugs and Carpet NO EXPERIENCE NEEDED

\$4 A DAY Easily Made

We start men and women in a profitable business on a small investment. Write quick for prices and Loom Book.

REED MFG. CO., BOX A, SPRINGFIELD, OHIO

Don't Rust Farm Fence

Heavily galvanized. Sold direct to farmers at manufacturers' prices. Also Poultry and Ornamental Wire and Iron Fences. Side-track dealers' profits. Catalog free. Get Special Offer. Write.

THE WARD FENCE CO. Box 363, Decatur, Ind.

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SUNDAY



READING

Faith

By Mrs. Kemble

Better trust all, and be deceived,
And weep that trust and that deceiving,
Than doubt one heart that, if believed,
Had blessed one's life with true believing

At the End of His Rope

By Edgar L. Vincent



HERE is he now, Father?" "That I cannot just tell you, Laddie. Somebody asked his father that question a while ago, and all the answer he gave was, 'We don't talk about that.' Shouldn't you think he was somewhere that they do not want you and me and the rest of folks to know? Maybe in jail. The last we heard of him he was out in some city in the western part of the state."

Laddie and I sat where we could look right over at the old home where Ben used to live. It was a pleasant place, tucked in among the hills, with trees and flowers everywhere, and a brook singing its way down through the woods just across the road. The sunshine rested over it to-day, warm, pure, life-giving. The smoke curled from the chimney of the old house so peacefully! And yet, Ben was a wanderer!

A bit of silence; and yet silence has an eloquent language, especially when you sit where you can look into the face of a boy like Laddie.

"Well, I would run away, too, if my mother talked to me as Ben's did to him!"

The bright eyes snapped, those eyes so like his mother's, and I knew there was fire in the heart of my boy.

"She never says he's a good boy, nor anything like that! She always talks about givin' him a lickin', or something like that! I remember about it! And Ben was a real good boy, too; and he knew lots of things a fellow can do! He and I used to go down through the woods together and he knew all about the birds and things we saw. I was sorry when Ben went!"

The fine passion in Laddie's face proved the truth of his love for the young man now, perhaps, sitting in the lonely darkness.

"And Ben did lots of things at home, too, to help. He tried to help, but his mother wouldn't say he had helped, no matter what he did. Don't you remember how he and Sue got the maples to tap of Uncle Jake, and lugged all the wood to boil it—yes, and cut it, too, with the crosscut saw and ax? Sue did her share, but her mother just about took her head off every time she said a word to her! Yes, sir, I'd run away, too!" Again the silence. "Should hate to, though! But then, you and Mother never speak to me that way! That's why I never expect to run away!"

And there we sat and talked and thought it all over. Who sinned most, that boy of the bright mind and the warm heart, or the mother who always saw the worst side of his nature and perhaps made that a hundred times worse than it really was? Ben was just like a thousand farmer lads you and I know. Keen to read human nature, ingenious in thinking of things to do, and yet with a boy's dread of the sharp tongue of the one who ought to have been all the world to him. The years brought him so little of happiness! His home life was a tragedy every day. He and the rest of the children stood in constant fear of the harsh, cruel reprimands of the mother. How many times they would "cut sticks" and run when they heard her coming!

What wonder that as soon as he was old enough to think about the great world outside he should creep out of the home nest and spread his wings for a flight into the unknown! What wonder, either, that he should soon fall in with young men like himself who chafed at home restraints, and finally lost his way and go out into the dark night of crime which always hangs over the city?

What do you think that mother thinks about it now? Does she blame her boy, or does the mother-love, which never really fades out of the heart of woman, call out after her boy? Does she watch by the window now for the sound of his returning steps? Does she wet her pillow at night with tears of sorrow and regret that she did not know the heart of her boy better and keep closer to it in the days when her influence would count for so much?

You can take a board that has been nailed full of holes, and fill them with putty, and cover them over with paint; and for a time the board will seem as

beautiful as if it never had been marred; but the storms wipe off the paint. Soon the putty crumbles and drops out. The holes are still there. The beautiful piece of timber never can be quite what it was had it not suffered so.

Wood may be fashioned into a costly piece of furniture; it may be carved into the likeness of the most beautiful thing the mind can think of; it may be polished till it shines like glass; and yet, with just one blow of the hammer, struck with carelessness or passion, you can leave a mark upon its fair face that will last as long as its life lasts.

More beautiful than wood is the heart of your boy or girl. Shall yours be the hand to strike the blow which will spoil that young life forever?

Try This Just Once

By J. H. Haynes

PRaise your wife! Give her a little encouragement! It will do her good and yet not cost you much. She has made your home pleasant and comfortable, your hearth bright and shining, your food agreeable. For goodness sake! tell her you thank her for these efforts to make you happy, if you do nothing more! Of course, she does not expect this. Surprise her for once. It will make her smiles brighter than they have been for years, and it will do her good and you, too. There are many women to-day thirsting for a word of praise, the language of encouragement. Is your wife among this number? Through summer heat and winter cold these wives have drudged uncomplainingly; and so used to their monotonous labors have their husbands become that they look upon them as they do the daily rising and setting of the sun. Are you one of this kind of husbands?

Praise your wife, then, for all her good qualities; give her a word of encouragement, now and then, and you may rest assured that her deficiencies are fully counterbalanced by your own.

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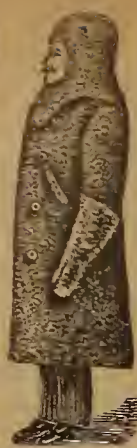
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Knitted Block for a Counterpane

By Nida Hope



T SEEMS as if knitting were coming into fashion again, so persistent are the calls for directions for this sort of work. Even physicians praise the humble steel needles as a cure for extreme nervousness.

The charm of the old-fashioned knitted counterpane still hangs over us. We want them, even to the extent of paying fancy, antique-shop prices for them.

Here is an opportunity to make one for yourself. It will cost only the time and cotton necessary to make it. The four-petaled flower in the center of the design stands out like a bas-relief from the knitted lace of the background. It is one of the most attractive of designs and, when finished, will prove a wonderful addition to any bedroom.

It is presumed that nearly everyone knows how to knit, so it will only be necessary for me to give directions.

Use knitting cotton or coarse linen thread and steel needles of a suitable size. The square is knitted with five needles, but in commencing the block only four are used. Cast 3 stitches on each of 2 needles, and 2 stitches on a third needle.

First Row—Knit plain.

Second Row—Over, knit 1. Repeat all around.

Third Row—Knit plain. Then take the fifth needle, and divide the stitches evenly on four needles.

Fourth Row—Over, knit 1. Repeat all around.

Fifth Row—Purl 1, knit 5, purl 1, knit 1. Repeat 3 times.

Sixth Row—Over, knit 3, over, knit 1, over, knit 3, over, knit 1 twist stitch (to knit a twist stitch, put the right-hand needle in the back part of the stitch). Repeat three times.

Seventh Row—Purl 2, knit 7, purl 2, knit 1. Repeat three times.

Eighth Row—Over, knit 5, over, knit 1, over, knit 5, over, knit 1 twist stitch. Repeat three times.

Ninth Row—Purl 3, knit 9, purl 3, knit 1. Repeat three times.

Tenth Row—Over, knit 7, over, knit 1, over, knit 7, over, knit 1 twist stitch. Repeat three times.

Eleventh Row—Purl 4, knit 11, purl 4, knit 1. Repeat three times.

Twelfth Row—Over, purl 1 knit 1 purl 1 all in the next stitch, making three

stitches of it before slipping it off, knit 3 together, knit 5, over, knit 1, over, knit 5, knit 3 together, purl 1 knit 1 purl 1 all in the next stitch, over, knit 1 twist stitch. Repeat three times.

Thirteenth Row—Purl 5, knit 13, purl 5, knit 1. Repeat three times.

Fourteenth Row—Over, knit 1, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 6, over, knit 1, over, knit 6, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 1, over, knit 1 twist stitch. Repeat three times.

Fifteenth Row—Purl 6, knit 15, purl 6, knit 1. Repeat three times.

Sixteenth Row—Over, knit 2, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 7, over, knit 1, over, knit 7, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 2, over, knit 1 twist stitch. Repeat three times.

Seventeenth Row—Purl 7, slip 1, knit 1, pass slipped stitch over, knit 13, narrow, purl 7, knit 1. Repeat three times.

Eighteenth Row—Over, knit 3, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 15, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 3, over, knit 1 twist stitch. Repeat three times.

Nineteenth Row—Purl 8, slip 1, knit 1, pass slipped stitch over, knit 11, narrow, purl 8, knit 1. Repeat three times.

Twentieth Row—Over, purl 1 knit 1 purl 1 in first stitch, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 13, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 1, over, knit 1 twist stitch. Repeat three times.

Twenty-first Row—Purl 9, slip 1, knit 1, pass slipped stitch over, knit 9, narrow, purl 9, knit 1. Repeat three times.

Twenty-second Row—Over, knit 1, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3 together, purl 1 knit 1 purl 1 in next

Thirty-third Row—Purl 31, knit 1. Repeat three times.

Thirty-fourth Row—Over, knit 31, over, knit 1 twist stitch. Repeat three times.

Thirty-fifth Row—Purl 33, knit 1. Repeat three times.

Thirty-sixth Row—Over, slip 1, knit 1, pass slipped stitch over, repeat until within the last 2 stitches, then over, knit 1, over, knit 1 twist stitch. Repeat from beginning of the thirty-fourth row, three times.

Thirty-seventh Row—Knit plain all around.

Thirty-eighth Row—Over, knit 4, slip 1, knit 1, pass slipped stitch over, repeat within the last 6 stitches, then over, knit 5, over, knit 1 twist stitch. Repeat three times.

Thirty-ninth Row—Knit plain all around.

Fortieth Row—Over, knit 1, over, slip 1, knit 1, pass slipped stitch over, knit 1 narrow, repeat within the last 2 stitches, then over, knit 1, over, knit 1. Repeat three times.

Forty-first Row—Knit plain all around.

Forty-second Row—Over, slip 1, knit 1, pass slipped stitch over, over, knit 1, over, slip 1 narrow, pass slipped stitch over, repeat until within last 4 stitches, then over, slip 1, knit 1, pass slipped stitch over, over, knit 1, over, knit 1 twist stitch. Repeat from beginning of forty-second row three times.

Forty-third Row—Knit plain all around.

Forty-fourth Row—Over, purl to within the last stitch, then over, knit 1 twist stitch. Repeat three times.

Forty-fifth Row—Knit plain all around.

Forty-sixth Row—Like forty-fourth row.

Forty-seventh Row—Knit plain all around.

Forty-eighth Row—Cast off loosely.

Sew the blocks together neatly on the wrong side. Tie in a fringe, or edge with a knitted lace, either of which will be pretty.

A counterpane knit after this pattern will be neither difficult nor tedious to make; the work progresses quite rapidly. And the long winter evenings afford just the time for such work.

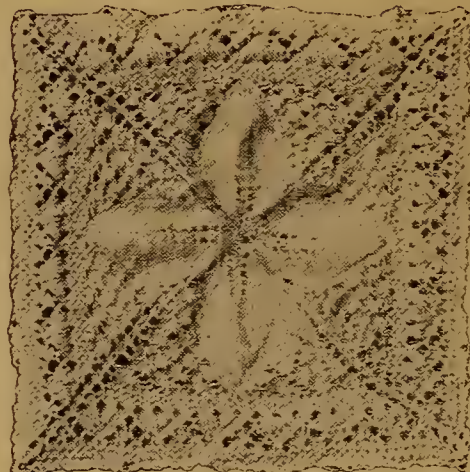
The Model Guest

By Haryot Holt Dey

A GREAT deal is said and written about the responsibilities of the hostess, and so little about the behavior of the guest, when really it is quite as much of a trick to be a model guest as it is to be a model hostess. No matter on what familiar terms the guest may be with the hostess, there are certain little formalities, amenities and courtesies that should not be overlooked. For example, there is the simple point of regarding with seriousness the time which the hostess appoints for the visit, the time for its beginning and the time for its ending. The hostess is likely to have plans of her own, even though she may not divulge them to her intimate friend who is her guest. The model guest will depart at the time specified in the invitation, although urged to remain and will not run the risk of making her hostess as glad when she goes as when she comes. This is called "making her twice glad," which, naturally, it doesn't.

There is also the courtesy of being prompt at meals, especially the breakfast-table. A woman who entertains largely during the year, and is in the habit of overseeing her household duties, confides in me that she always keeps on hand what she calls "temper work." She has knit a bedspread at odd times while she has been waiting for guests to come to breakfast.

The model guest, I therefore conclude, is one who comes when she is invited, and goes home at the time specified in the invitation. She makes her own bed, keeps her room in order, and is always ready when meals are announced. I believe, in addition to these excellencies, that she brings her own soap and scissors and comb and brush, and that in case she does not do this, she, at least, on departure, refrains from appropriating any of the articles mentioned, which she may have borrowed of her hostess. The model guest busies herself with a bit of attractive needlework which she afterward presents to the hostess. She makes friends with the dog and cat, and she tells stories to the children, and admires the family baby, and praises the cooking, and never forgets a little fee to the servants. She never intrudes herself during the houseworking hours, but settles herself in a snug corner with a book, and has the best kind of a time. Sometimes she dusts around a little just for exercise, and she claims only the privilege of being one of the family. She knows how to express appreciation in a way that puts a spur to everyone's good endeavor, and she goes home while everybody is very fond of her, and regrets her.



As the finished block appears

stitch, knit 11, purl 1 knit 1 purl 1 in next stitch, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 1, over, knit 1 twist stitch. Repeat three times.

Twenty-third Row—Purl 10, slip 1, knit 1, pass slipped stitch over, knit 7, narrow, purl 10, knit 1. Repeat three times.

Twenty-fourth Row—Over, knit 2, purl 1 knit 1 purl 1 in next stitch, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3 together, knit 9, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 2, over, knit 1 twist stitch. Repeat three times.

Twenty-fifth Row—Purl 11, slip 1, knit 1, pass slipped stitch over, knit 5, narrow, purl 11, knit 1. Repeat three times.

Twenty-sixth Row—Over, knit 3, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 7, purl 1 knit 1 purl 1 in next stitch, knit 3 together, purl 1 knit 1 purl 1 in next stitch, knit 3, over, knit 1 twist stitch. Repeat three times.

Twenty-seventh Row—Purl 12, slip 1, knit 1, pass slipped stitch over, knit 3, narrow, purl 12, knit 1. Repeat three times.

Twenty-eighth Row—Over (purl 1 knit 1 purl 1 in first stitch, knit 3 together), repeat twice more, knit 5 (knit 3 together, purl 1 knit 1 purl 1 in next stitch), repeat twice more, over, knit 1 twist stitch). Repeat three times.

Twenty-ninth Row—Purl 13, slip 1, knit 1, pass slipped stitch over, knit 1, narrow, purl 13, knit 1. Repeat three times.

Thirtieth Row—Over, knit 1 (knit 3 together, purl 1 knit 1 purl 1 in next stitch), repeat twice more, knit 3 (purl 1 knit 1 purl 1 in next stitch, knit 3 together), repeat twice more, knit 1, over, knit 1 twist stitch. Repeat three times.

Thirty-first Row—Purl 14, slip 1, narrow, pass slipped stitch over, purl 14, knit 1. Repeat three times.

Thirty-second Row—Over, knit 29, over, knit 1 twist stitch. Repeat three times.



The Country Mother

By Alice M. Ashton

SO MANY country mothers lament that they can do nothing for their children, that they must lack all advantages because they are in the country!

Any mother has much to fight against in the bringing up of her little ones, and it is by no means the country mother alone who must face difficulties and discouragements.

Only a mother who has tried knows how hard it is to keep her children interested and contented in the stuffy little back garden when the excitement of the street is calling loudly; to her it seems as if the country is a haven for the upbringing of children.

"The outdoor life is good, of course," answer many discontented country mothers, "but how about advantages?"

The country schools are not always what they should be, but in many instances the interested coöperation of the parents would better them. And we do get excellent scholars from our rural districts; some of our best high-school pupils come from the country. Try to remember, dear discontented mother, that only a very small per cent. of the town children ever finish the high school; outside interests become too strong, or the bread question too insistent.

Not long ago I visited an excellent village school having seven trained teachers; six of those teachers (including the principal) came from country homes, and go back each summer to help through the busy season.

I recently stopped at a remote country home, where necessity compelled me to stay several hours. One son of this household was away to college. Another had finished an agricultural course and was managing the home farm so successfully that he was already buying more land and preparing to specialize in his farming. The eldest daughter was teaching in a distant city. As I still stood at the door, a pretty, well-dressed young lady rode up on horseback, whom the mother proudly introduced as her youngest daughter. Her manner was charming, and presently she played me several difficult pieces on her piano as gracefully as any town-bred girl could have done.

Not all country children have so good advantages, of course; neither does one family out of ten in the town do as well for their children.

The country child may be taught correct manners, may be given good books and magazines that will instruct and refine, and opportunities to work his way ahead in the world.

Remember, dear mother, that if you now give up to the obstacles and oppositions you meet, you would be just as weak to face the difficulties of child-rearing in the town.

Parental Responsibility

By J. H. Haynes

A MOTHER with tearful eyes asks what can be done for her boy who has acquired the cigarette habit? The query is a difficult one to answer. The child reflects the home environments in all that he does.

In the schoolroom, in our young days, we learned to study character; and occasional visits to the homes of our pupils confirmed the truthfulness of our views.

The boy who, with harsh language and closed fist, cowed the other pupils has his counterpart in the home: a mother who rules as with a rod of iron.

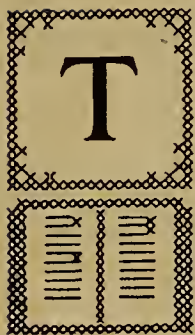
The boy or girl who acts in a disorderly manner, defaces the schoolroom or its furniture, is sure to come from a home where chaos and disorder prevail. The raging, scolding mother will raise up vicious, ill-disposed children.

The mother who at every little offense cries out, "I'll slap your jaws," or "I'll break your neck," furnishes her equivalent in the schoolroom.

The pupil who has a proper regard to the school surroundings reflects the character of the home environments. If at any time reproof is found necessary, it will not be in bawling terms, nor characterized by a display of passion. That child will always remember its mother, and the character of her life will be reflected in its future actions. Whether you claim church membership or not, see that your life conforms to that laid down by the great Master, and your child will imitate you. Mothers and fathers, remember that you are in a great degree responsible for the future life of your child!

Memory Gems for Mothers

By Fay Stuart



HERE was once a woman, so the story goes, who had lived most of her life as a poor country girl with very meager advantages. Later, as she mingled with educated people, they were charmed by her brilliant mind, which seemed just overflowing with poetic thought. She was familiar with the best literature and ready at any moment with an apt quotation. She was popularly supposed to have graduated from some college. But to the one man who at last entered her life she made this confession:

In living with a poor country relative she had received little schooling, not even having the advantage of a public library. Almost the only books in her home were the Bible and the Old Farmer's Almanac. There was also a calendar published yearly containing a verse for each day. From these scanty resources she had gleaned her knowledge, storing up quotations from the best authors until her memory was rich with gems. She called it graduating from Calendar College. Does not her experience put us to shame, with volumes of poems in our book-cases, gems of poetry in most of the magazines and the public library freely offering to us its treasures?

One interesting plan that produced fine results is to obtain blank books large enough to hold three hundred and sixty-five verses. While buying for the children, get one for yourself.

Each day write beneath the date some favorite verse and its author's name. Memorize it, and at the evening meal let each one repeat her memory gem. Think of the poetry that will cling to your memory and help make your own thoughts dainty and sweet.

The search for verses will open books and magazines that might otherwise remain untouched, and you will all be sure to learn something besides the daily verses as the pages lay open before you.

I try to find verses appropriate to the season of year or that are suggestive of the day's happenings. At the beginning of the New Year, I find these words from Susan Coolidge's pen:

Every day is a fresh beginning,
Every morn is the world made new;
You who are weary of sorrow and sinning,
Here is a beautiful hope for you,
A hope for me and a hope for you.

Again for some day that has had its own trials, Owen Meredith's words:

No life can be pure in its purpose and strong in its strife,
And all life not be stronger and purer thereby,

bring cheer that makes life seem worth while. When the children complain of the long stormy winter, upon some February day teach them this:

Ah, lend me your little ear, love!
Hark! 'tis a beautiful thing;
The weariest month of the year, love,
Is the shortest and nearest to spring.
—Mrs. A. D. T. Whitney.

Have you an impatient day? Listen to Shakespeare's wisdom:

He that will have a cake out of the wheat must tarry the grinding.

Or again from Mrs. Whitney:

Making a sweet pause of patience
Rather than a craving and a pain.

Do the things in your work seem all distorted and wrong? You'd like to change them, but it seems a hopeless task! Learn from Jean Ingelow:

I am glad to think
I am not bound to make the world go right;
But only to discover and to do
With cheerful heart the work that
God appoints.

As fall comes, you will find rich

The swallows chatter about their flight,
The cricket chirps like a rare good fellow,
The asters twinkle in clusters bright,
While the corn grows ripe and the apples mellow.

Indian summer will bring Whittier's thought to mind:

From gold to gray, our mild, sweet day
Of Indian summer fades too soon;
But tenderly about the sea
Hangs, white and calm, the hunter's moon.

In December perhaps you will recall Edna Proctor's words:

December fair and holly-crowned
With the Christ-child in her arms.

Or Alfred Tennyson's:

The time draws near the birth of Christ,
The moon is hid; the night is still.
The Christmas bells from hill to hill
Answer each other in the mist.

For the Sabbath verses I need offer no suggestions. The Book of Books is brimful of helpful, inspiring and poetic thought. We all have our favorite Bible verses.

You will grow better acquainted with the men and women who have treasures among the poets. Whittier whispers:

The west winds blow, and singing low
I hear the glad streams run;
The windows of my soul I throw
Wide open to the sun.

There are many beautiful Memorial Day poems. My book contains this:

But the roses we plucked for the blue
And the lilies we twined for the gray,
We have bound in a wreath
And in glory beneath,
Slumber the heroes to-day.

—Albert B. Paine.

With the coming of apple-blossoms, violets, roses and song-birds, you will be tempted to write several verses each day. By and by, Helen Hunt Jackson's words will fit:

The golden-rod is yellow,
The corn is turning brown;
The trees in apple-orchard
With fruit are bending down.

And what a choice collection by and by, when the little ones, woman grown, have left the home nest, will Mother find these old blank books as she sits, tired and lonely perhaps some winter's evening, to smile and possibly shed a bright tear or two over the childish handwriting and the choice of verses so characteristic of little daughters in their growing-up time. Try it, busy mothers, for it will prove worth while.



Children's Rightful Inheritance

By Hilda Richmond

VERY few parents, unless it be the lazy, shiftless men and women who literally obey the injunction of Scripture, "Take no thought for the morrow," go through life without concerning themselves about the portion that will fall to their children when they die, be that time late or soon.

Some people are saving to educate their boys and girls, some to fit them for professional life, some to save them from hard work, some to give them social advantages, but more than all fathers and mothers are denying themselves in order that they may heap up wealth for their children. It seems to be the universal passion to leave a rich financial heritage to sons and daughters, so that part of the question will be treated first. It is too bad so many people have the idea that if young people only have wealth they have everything needful, when in reality the very money gotten together by hard and painful toil may prove a curse rather than a blessing to them.

But there is a financial inheritance that even the children of the very poor ought to have, and that is the education in the getting and spending of money. One of the most pathetic sights in the world is that of a young man or woman wholly untrained suddenly placed in possession of a fortune, large or small, for in ninety-nine out of every one hundred cases destruction of the property speedily follows. What might have been a lifelong satisfaction is dissipated in a few months or years, and the heir is really worse off than if he had never received it. So instead of giving yourself so much concern to lay up dollars for your sons and daughters, teach them the value of money and help them earn it for themselves either by hand or head work, or by both.

A man with a little farm and a family of four children lived next a rich farmer with only one son who was to receive all his father's property at his death. The poor man had nothing much to give his children, so he set about educating them as best he could to take care of themselves, while the neighbor openly boasted that his son could take life easy. As it turned out, the man on the little farm is living in peace and comfort, secure in the knowledge that his children have entered upon their inheritance, for they are all making money, while the rich farmer worries along as best he may, devising schemes to keep his son from wasting his money after he is gone. He has paid bill after bill for the son, and the end is not yet, simply because he was so busy laying up money for him that he neglected to teach him how to spend and to save. In the humble home money was not placed above everything else, though the children of the farmer in moderate circumstances could now buy and sell the man who once pitied them.

From earliest childhood the child should have money of his own and instructions in how to spend and how to save. Of course, children will make mistakes and buy foolish things, but all the same they receive valuable lessons from those very mistakes, and it is better to allow a boy to learn the folly of wasting money from twenty-five-cent failures in childhood rather than twenty-five-hundred-dollar ones later in life. If a little girl, in spite of advice on the subject, buys an unbecoming hair-ribbon and is forced to wear it out, she will be more careful next time, whereas a becoming one purchased by the mother against the child's will teaches her nothing but the idea that she has no rights.

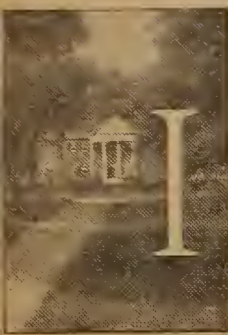
Some misfortune may keep you from leaving a dollar to your sons and daughters, but nothing on earth can prevent them from being educated in financial matters if you set out to give them that inheritance. The common details of the law regarding borrowing and selling, security, taxes, buying and selling real estate and what is legal in making out deeds and notes should be as familiar as the multiplication table to country boys and girls, and no important step should be taken in the family without consulting them and giving them an insight into business affairs. Instead of being shielded from financial transactions they should be pushed out into the world and put on their guard against swindlers. A few bad bargains will educate them more than volumes of advice. Whatever else you have for the boys and girls when you come to die, be sure that they have had a rich inheritance in financial training and wisdom, then the money will not matter.



'Twixt Man and Wife

By L. D. Stearns

Illustrated by Charles S. Corson



WONDER. Beth, how many times you've crossed the room in the last ten minutes!" and Jack Graves turned a half-smiling, half-annoyed face toward his wife. "It sort of gets on a fellow's nerves, you see," he explained apologetically.

"I'm sorry, boy," and pausing beside him she ran her slender fingers through his rumpled hair with a soft little laugh. Then she seated herself on the broad arm of his chair. "Don't lay it all to me, dear," she went on. "I warned you last night that the thermometer was still rising and that I should shed winter flannels to-day. Poor fellow, you're still enduring yours."

He made a little grimace. "Don't mollycoddle, Beth. How often must I tell you that I can touse my own hair all that's needful? Why is it girls always want to get their fingers in a fellow's hair, I wonder! As for flannels, I always had a sort of weakness for taking my mother's advice, and I believe she used to say the last of May was time enough to don summer garb. You, I presume, were never troubled with such a weakness."

"No, Jack, do you remember—" The wife's voice trailed off into silence, while her eyes roved with a half-smile over the room. Then they came back and rested wistfully on her husband's face. "It's a beautiful room, isn't it, Jack?" she asked.

"Sort of homey and pleasant. Why?"

She had withdrawn her fingers from his hair. She had withdrawn herself also, so that her body no longer rested against him, but she still sat perched on the chair arm, leaning back with careless grace, and he—man-like—did not note the blue-gray shadows that had crept into her eyes, nor the little hard sound that had taken the sweetness from her voice.

"Why? Oh, I was wondering—remembering the little room where you used to come for a cup of tea which I made myself over the lamp. It wasn't a pretty room, Jack—rather bare and dreary, was it not? And yet it was a dear, gay little room with its shabby furnishings, and its one window. I think of it at times. I never bored you then, did I, Jack?"

He laughed absently, and turned again to his paper. "If making tea has such fascinations," he said, "you might make four or five cups a day. Doubtless it would do as well as the 'Rest Cure.' But what bribe can I give that I may gain peace to read my paper?"

"Nothing, thanks." With a yawn and a little indifferent air, she arose and crossed the room.

She picked up a book, opening it at random, and sat down. Her manner was careless, but her face was white and her eyes were like glowing coals.

A queer little lump came into her throat—an odd choking sensation, as though she were stifling and must have air. She raised her hand to her throat, and drew a quick breath. Then she leaned back with closed eyes.

Her husband folded his paper and arose. "I have to go to the office, Beth," he announced. "It is more than likely I shall be detained until late. Don't wait up for me."

"I thought we were going to the concert," not turning. "We have not been out for weeks, but doubtless you forget."

"Yes." He spoke in a preoccupied way. "I did forget. I am sorry, but it cannot be helped now. Perhaps you would like me to send Henry up to take you?"

"If you would be so kind." Her voice was clear and cold. It held, somehow, the quality of steel striking on steel.

It penetrated her husband's consciousness at last.

"What's the trouble, Beth?" he inquired anxiously.

She raised her brows slightly. "Trouble? Nothing new. I am wondering a bit if it all paid."

"What?"

"The giving of life—home—liberty—" she paused, and her eyes swept the beautiful room, then dropped to the costly dress she wore, and she lifted her head a little higher and held it proudly erect as she added with curling lips, "for this!"

The man's eyes had followed her, and as she paused he took a step toward her, then drew back with compressed lips.

"Is that all you gained, Beth?" he asked.

"Quite all," she replied. "What more could woman ask?" And with a hard little laugh and a rustle of silk she swept from the room.

She paused just outside the door. "If Henry does not come, I shall ask Frank Lee to take me to the concert," she announced. "I am aware it will be against your wishes, but," she shrugged her shoulders and went on up the stairs, and from the landing a little mocking laugh floated back.

Inside her room she stood quite still for a second, hands pressed hard against her burning eyes; then she stretched them to the open fire blazing in the grate, shivering as though with achill. "If I hate him," she

whispered passionately, "he has only himself to blame!" Then, "And I could have loved him so!" she cried, with quivering lips.

She dropped down, woman fashion, to the floor, clasping her hands about her knees. She wondered a little how she had failed. She had loved with such a passionate love it was almost pain. Yet little by little, with such a firm, quiet hand she had hardly known when it began, he had forced her outside his plans, his business, his life, until at last they had come to seem far apart. She remembered so plainly the first time he had withdrawn his hand from her touch. She had tried with all her woman's strength to be companion, friend, chum—as well as wife—but at every move cold, calm, studied indifference had met her, and put her pitiful little advances to one side, until now as she sat with white face and tightly closed eyes, fighting passionately to keep the hot, stinging tears from overflowing, her heart cried over and over, "He shall never hurt me again—never—never! For hate cannot hurt like love, and love shall die. I'll hate him! I will! I will!"

The clock struck eight, and as it did so she arose. Henry, the old, white-haired clerk, had not come, and

now partly in shadow, and once more she shivered. "I suppose," she said slowly, "he gives me all his nature *can* give. And I took my choice. Frank loved me, but I loved Jack, and Jack loved—nobody. But love or hate, I—am—his—wife."

She retraced her steps and sat down once more before the telephone.

"347-12," she repeated. "Frank? . . . oh, I'm glad you've not left. . . . No, Jack's not here, but I find I can't go. . . . Yes. I'm sorry, but I have quite suddenly decided to run away for a little outing to-morrow, and I shall be busy packing to-night. . . . No. I could not possibly see you were you to call."

She hung up the receiver again and went once more into the living-room. Its shadowy outlines of ferns and palms and costly statuettes reached out luxurious arms appealingly toward her; but she did not see them. Crouching down in the dark by a window, she looked out into the night with wide, tearless eyes. Presently her husband came into sight. She watched him come along the walk and mount the steps, and thought with an odd little smile of how she would have hastened

once to let him in. Then she dropped her burning face to her folded arms.

"If I hate him," she whispered once more, "he has only himself to blame!" Then her soft arms grew rigid—her face set. "And I will! I will!" she repeated.

She heard him turn off the lights in the hall and go into his den. Then, after a long interval of time, she realized it must be very late, and rising, cramped and stiff from her long vigil, she went slowly out, but as she reached the stairs she noticed a glimmer of light from beneath his closed door and turned back, thinking he had forgotten to turn off his gas.

Opening the door, she saw him still at his desk.

"Pardon me," she apologized. "I saw your light and thought you had forgotten it."

He turned. "Did you enjoy the concert?" he inquired, his face stern and white.

"How could one but enjoy it?"

"Particularly with pleasant company?"

She inclined her head slightly, and advanced a step into the room. "Can you spare me a few moments?" she asked, evenly, taking a chair a little distance from him.

Her cheeks were dead white, her eyes like glints of flame, her lips drawn into little scornful curves. She folded her hands, one over the other, in her lap, and leaned easily back into the depths of the big chair. Had it not been for her eyes one might have thought her the picture of careless ease.

"I am going away to-morrow, Jack," she said simply, and her voice was steady and low.

He did not move, or speak, merely waited; and after a hardly perceptible pause she went on. "It has become unbearable here—our life. You and I, at least, know it is a farce, and that our one chance of contentment or happiness is in living apart. You will give me, I presume, a little money to tide me over the first few weeks. I shall never ask for more, and—I shall leave my jewels. You paid for *them*. *They are yours*. I shall never, of my own will, see you again."

Her teeth shut hard over her under lip that, in spite of her efforts, threatened to quiver. She raised her handkerchief a second later, and wiped away a drop of blood where they had cut the tender skin.

"You bear my name," impassively. He might have been carved from stone. Even his lips were white.

Her breath came quickly.

"I shall bear it honorably," she said

proudly, suddenly sitting erect, her head held very high. "I did not go to the concert this evening after all, because of that fact."

He leaned his head on his hand. "Thank you," he replied gravely.

Then, with a sudden sharp move, he swung around, misplacing a paper as he did so, which fell to the floor. He reached out and laid another hastily in its place, but not before she had seen his revolver lying hidden beneath.

"I have something to tell *you*, as well," he began. "It will not take long. You said to-night that marriage had given you—*this*," glancing suggestively about. "I never realized before how large a place luxury held in a woman's life. Believe me, I am glad to have known of your decision to go away before telling you my—*confession*." He laughed a little bitterly. "I think it has hurt less, if such a thing were possible, than if you had told me later."

He paused, and with critical eyes she noted the strong, white hands opening and closing quickly. It was his only show of emotion, yet his face was as white as her own.

"It has been a struggle for a year, until last week I staked every dollar I had on an even chance, and to-night," he took a deep breath and shut his lips hard. Then he looked across, straight [CONCLUDED ON PAGE 31]



"She had risen and was standing . . . with parted lips and wide, staring eyes"

with her lips set in a strange, hard way she went to her closet and took out a shimmering silken gown. Going to the glass, she began to smooth her hair. Her lips no longer quivered. The tears no longer fought to have their way.

At sound of the telephone in the hall below she turned and ran lightly down.

"Henry has gone home sick," came over the wire, in her husband's voice. "I am sorry."

"Yes." Her voice was low and sweet. "Are you going to take me yourself, or shall I phone to Frank?"

"Beth, you would not do that?"

"Yes." It was just a word, scarcely breathed; but it carried conviction. "Be sure I do not forget I am your wife. God knows I wish I were not."

She hung up the receiver, hesitated a moment, and took it down again.

"347-12," she called; then, "Good-evening. Is it Frank? I wonder—could you be coaxed from your chair and your paper to take me to the concert to-night?"

"Beth!" Even over the wire she caught the sharp catch of wonder in his voice. "Is Jack willing?"

A little laugh floated over the wire. "I am willing. Hurry, please," and she hung up the receiver.

She went slowly up the stairs, pausing at every step, then she turned and looked down the length of the hall,

How to Be Prettier Than You Are

Through the Care of Your Hair

By Louise D. Mitchell

IT WOULD take too much space in this little article for me to tell you how hair first became a source of beauty, so I shall ignore that subject and merely remind you that hair was really intended by Mother Nature as a means for protecting the skull and keeping it warmed.

Now, each hair of your head is imbedded in a tiny sac just beneath the skin, and each sac is supplied with blood and nerve food to promote its growth. No matter how complete the baldness, hope for restoration of the hair need not be abandoned if the blood and nerve supply remain intact. When the hair-follicle is dead, then the hair cannot be restored. Such baldness as follows fevers or worry, or the curious form where the hair drops out in patches, are curable, for in these the supply is temporarily checked, not entirely shut off.

The cure for this kind of baldness is, first, absolute cleanliness of the scalp, and then stimulation of the blood-supply by regular and frequent manipulation with a local application. The wearing of a wig is a menace at this time, although it may be a salve to pride, for it too often irritates the scalp and weakens the already weak follicles of the hair. A thin, dainty cap is better.

The falling out of hair is due to various causes, but chiefly to the general condition of the blood. It is also due to dandruff, to the fashion of dressing the hair, to headgear itself, particularly that of the present day, and to uncleanness. As I have said elsewhere, cleanliness is the first law of health, whether of body or soul, and is particularly "a first aid" to attractive and beautiful hair.

Oily hair or skin is an indication of too much waste going on in the body. A certain amount of natural oil is necessary for the hair as a lubrication, but an excess is an "illness" of the scalp. Dust adheres more readily to an oily surface than to any other, and hair that is too oily will therefore gather more dust than one that is not so oily. Excessive oil and dust make a kind of paste on the hair which sinks to the scalp and clogs up the pores of the skin, eventually causing an irritation of the scalp which terminates in actual disease.

Disease, especially dandruff, menaces the head from so many sources that it is little wonder that a heavy head of hair is a rarity rather than a common occurrence. Some of the many sources for this evil are the following: First of all, the use of a brush or comb belonging to another; then, unclean brushes or combs belonging to yourself. The trying-on of hats in shops or belonging to others. Resting your head against chair-backs in public places or conveyances, or using pillows slept on by others. These are a few—only a few, mark you!—of the many ways for transmitting disease from one head to another. And I must not forget to add, also, the use of a common towel, or the shop of a shampooer where little real attention is given to sanitary conditions of wash-bowl or towels.

If I were in your place, I would wash my own hair in my own home. If you are not strong enough to do it yourself, arrange with a friend or member of your family to do it for you, or call in a regular hair-dresser to do the work in your own home, where you can superintend the condition of your wash-bowl and have what you require otherwise.

A simple method for washing the hair is the following: Plenty of water to start with. Moisten the hair all over first, and then rub in some liquid soap. Green soap is good for this. The white of an egg is

used largely, but I believe in simple, wholesome methods of cleanliness and shall give you such in this suggestion, only. See that the soap reaches all parts of the scalp thoroughly, and rub well with the tips of the fingers, the "cushions," as they are called.

Then take the long parts of the hair and wash as you would a handkerchief of cobweb lace—gently, but firmly with a desire to see it really clean. Rinse in three waters most carefully. The first rather warm, the second less warm and the third cool, not cold. If you are fortunate enough to have a "spray" at your command, it is the best thing in the world for thoroughly rinsing the hair. The object in rinsing the hair is to remove *all the soap from it*, and if this is not done by you, there will be an absence of gloss from hair, and it will feel rough to the touch, besides not remaining clean long thereafter. While the hair is very wet, use a linen towel, never a cotton one, to rub the first dripping moisture from it.

Place the towel over the head and *under the hair* in order to do this. Never rub the hair from the outside. Your object is to dry the scalp and the hair nearest to it, and you cannot do this from the outside downward. Then abandon the towel. Now, begin the real drying process. Lift the hair about two inches from the head, and in strands, and toss it lightly from you. Pick it up thus all over the head by degrees, and work rapidly. This method is the only right one, for the hair is thus being ventilated and dried with the air playing through it. Stop every few moments in this, and rub the scalp vigorously. This is to stimulate the hair-bulbs and promote electricity and, incidentally, to aid in drying the hair close to the scalp, always the hardest part of the shampooing.

Ventilation of the hair and head is one of the most important items in its care, but it is one least thought of. As a consequence, the hair bound close to the head all day and the delicate hair-roots strained to the utmost by hair-pins and the weight of the headgear are bound to suffer, and falling hair is the result. The hair should be shaken down at night, and allowed to hang in the loosest manner possible. Then each strand should be lifted in the manner above described in the process of drying, and allowed to slip through the fingers in a fine shower, back to its place on your shoulders. Repeat this process all over the head until you are sure that every hair has been thoroughly ventilated. Then, begin the stimulation of the hair's growth by massage. Use the "cushions" of the fingers of both hands, and gently, but firmly, *pinch* the scalp all over. After that, rub firmly all parts of the head. And, finally, place the finger-tips of both hands on the head in a spread-out position. Press firmly against the skull, and while holding the fingers in place attempt to move the whole scalp.

If the scalp moves, it is not what I might call, "hidebound." If it does not, it is a bad sign. Therefore, work at it until it is loosened, and do this all over the head.

Do not roll your hair up at night. "Braid" it loosely, and let it hang. If not too thick or fine, better still to allow it to hang unconfined. Wash the hair at least every two weeks, especially if you are where there is much dust flying. Do not wear heavy hats, nor false hair. Be natural, individual, and let fashion claim those who cannot be. Remember that uncleanness of any part of the body retards growth of beauty and promotes ill-health. Adopt simplicity in all things, which is Truth itself, and sweetness, which helps to make this glum old world turn easily on its hinges.

Getting in Wrong with Wright

BACK in the days when Wilbur Wright was demonstrating that the art of splitting clouds wide open with an aeroplane was both easy and practical, Victor Murdock, who owns a newspaper in Kansas and occupies a seat in Congress, wrote for his paper a three-column article, praising Wright in glowing, glittering and dazzling phrases.

Shortly after that Murdock, who, for political and other reasons, always says he never writes anything that appears in his paper, attended an aeroplane meet, and was approached by a quiet young man who was evidently a newspaper correspondent.

"Mr. Murdock," said this intruder, "I enjoyed immensely your article on aeroplanes, and I was wondering if you would tell me how you—"

"No, no! And again, no!" exclaimed Murdock. "I never write anything, and I

never give interviews on what appears in my paper. No, sir! No! No, indeed!"

Whereupon the young man subsided into the crowd.

That night at a banquet given in honor of the aeronauts, Murdock was seated opposite Wilbur Wright, and, in a break in the chorus of talk, Murdock leaned across the table, and said urbanely:

"Mr. Wright, I hope you saw that article I wrote and published in my paper about you, and—"

He got no further. Right there was the blowup, the crestfallen finish. Wilbur gave him a stony stare, and in the flash of a moment Murdock had recognized in Wright the man who had accosted him earlier in the afternoon.

"The moral of that," said Murdock, in telling the story, "is: Either never write or never lie about your writings."—The Twice-a-Month Popular Magazine.

The Men Also Have Positive Opinions

IN THE February WOMAN'S HOME COMPANION, now on sale, there is a short story which is stirring up a tremendous discussion. The question is: Would any woman make such a sacrifice for her friend as the woman in the story does? Would you?

How we came to get this piece of fiction, and what we did with it when we got it is in itself an interesting little story. Here it is, for the benefit of women in FARM AND FIRESIDE homes:

LAST summer, there came to the COMPANION from Juliet Wilbor Tompkins,—whose work you well know,—unheralded and unexpected, a story entitled "The Way." The editor who read it first rushed into the office of the editor-in-chief, exclaiming: "Here is a wonderful story! It is vivid, daring, absolutely original, and yet charming and human."

Then we all read it. Most of us felt the same way about it. We talked about Norah and the crippled lady as if they were our own friends, arguing the question: "Could Norah have made such a sacrifice? Could any woman make such a sacrifice for another woman?"

Finally the Literary Editor said: "Let us see what the other COMPANION story-writers think about it, and let us ask a few of our readers to vote their opinion."

So we sent copies of the story to our contributors—the foremost writers in the country, asking what they thought. Every one of them has written us a letter about the story, and they, too, talk about Norah and her friend just as though they were real people.

Could Norah have made this supreme sacrifice? Octave Thanet says "No." Margaret Deland says "Yes." Mary Wilkins Freeman says "Perhaps."

But we won't influence your vote by telling you now what Alice Brown, Harriet Prescott Spofford and the others have said. We shall print their opinions in the COMPANION.

We are asking the COMPANION'S readers to vote their opinions. You need only write "Yes" or "No" on a postal; but probably you will want to write a letter and tell why you think as you do. By the way, we are going to pay for the letters that best explain why Norah could or could not have made the sacrifice. But what we most want is your vote—your "Yes" or "No." Of course we shall not use your name, unless you wish.

"THE WAY" is published in the February WOMAN'S HOME COMPANION, which, by the way, for many other reasons is a most remarkable number.


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Stoves
Too

Practical Cooking and Serving

By Edith Charlton Salisbury
Professor of Household Economics, Manitoba Agricultural College, Winnipeg

IT'S a bigger wonder to me every day how you manage to get through your work so easily. The cooking would take all my time and more, but you don't seem to mind it, and, bless me! you feed us well, too."

The speaker was a middle-aged woman, thin and wiry, nerves written all over her face and figure. She was a country woman, full of the vigor and energy of the farm. She spoke to another farm woman whose clear eyes, ruddy complexion, sturdy, straight figure and good-natured face proclaimed her what she was—the industrious, contented wife of an industrious farmer, queen of her home and mistress of her kitchen. She turned a bright face to her questioner and said with a merry little laugh.

"Well, I assure you I study the diet of my family quite as carefully as John studies his cattle feeding, and that's saying a good deal, for he can estimate, almost to an ounce, the amount of beef and pork he will get as returns from feeding so many pounds of meal and hushels of silage."

"You must have your course of study pretty well worked out, for it gives you mighty little trouble; I never see you prepare your lessons," said the guest.

"Oh, yes, you do, or you might," was the cheerful reply. "Just come into the kitchen to-morrow when it's time to get dinner, and I'll give you a few pointers, if you wish."

Quite early next morning the visitor greeted her hostess with, "I've come for pointers about cooking. Please tell me all you know."

"That wouldn't be very much," laughed Mary; "but it's at least a workable knowledge. Let's go out in the garden while I shell these peas. I can give you the introduction out of doors."

When they were seated, the farmer's wife began, "I suppose it was because I was very ambitious to be an up-to-date housekeeper and wanted to get as good results from my work as John got from his that made me begin to study housekeeping and cooking. Besides, I knew practically nothing about either when I married, as I had planned to be a dressmaker and was taking a course in that when John came along and changed my plans. Then I had been told that housework on a farm is harder than any place on earth; would kill me in a few years, they said, and I wanted to escape an early death. When I began to study the food question, it was with this in view: not only to feed John and his men in such a way that they would be satisfied and enjoy their meals, but without taking all my time and strength, nor eating up all my profits from cream and eggs.

"It would take too long to tell you about all the books and pamphlets I read on the subject. You can get many of them from the Department of Agriculture at Washington for the asking, but I boiled the result of all my reading down to this:

"We all need every day some food to make muscle and keep the tissues of the body in good repair; then we need some fat to keep the body warm, some starch and sugar to give us energy, and lots of water to help get all this food to the tissues and to carry away wastes. The amount that we need of these different kinds of foods, I learned, depends upon our work, our age, the climate and ourselves. I found out that here on the farm, where we are all in good health and have plenty of fresh air and exercise, nature regulates our desire for food, and the amount that satisfies us is about right. We have no invalids or dyspeptics in the family, or my task would be harder.

"Then, of course, it was necessary to know which are muscle foods, etc., and so I wrote out the classification of foods according to their principles and kept the list on the pantry door until I knew it by heart. I'll repeat it to you.

"The chief muscle foods are: Lean meat, lean parts of fish, cheese, beans, peas, eggs, milk, gluten in flour, nuts and other foods.

"Fat foods: Butter, cream, oil in cheese, olive-oil, oil in nuts, fat of meat, such as bacon and other fats prepared for eating, etc.

"Sugar: Sugars of all kinds, honey, syrup, sugar in fruit, candy, etc.

"Starch: All cereals and flours, potatoes, corn and some other vegetables.

"Mineral matter: In all fruits and all vegetables."

"I learned that while some of the muscle foods are richer than others in protein—that's the tissue-building property—and some are more digestible than others, it is better to select one or two from the list for each meal than to serve them all at one time. But you must have eaten dinners in which every one of the foods I have mentioned in the 'muscle' list appeared some place in the bill of fare. Often, too, you know, we serve two or three dishes which contain more starch than anything else, for instance: potatoes, bread, corn and rice pudding; or we have too many of the fat foods; or more vegetables than are necessary; or what is worse, no vegetables at all. Every time we do that it simply means we are either overeating or else we are wasting food material, making the meal cost too much, and we are spending too much time and effort on its preparation. I learned, too, that it is better to vary the meals more from day to day than to have so much variety, or so many foods of the same class on the table at once. You know that is one big fault of us country women; we waste food because we seldom take its cost into consideration. By loading the table with so many different dishes we really cheat the palate of its relish for food; in other words, we take the edge off the appetite.

"When I was able to classify any food material according to its principles, I saw I could save myself lots of work by simplifying my bill of fare. I would have some of each class at every meal, and the things that were to be cooked I would prepare so carefully that every mouthful of it would be relished. That meant I must master the principles of cookery, and a fascinating study I have found it.

"One of the first things I learned was that the digestibility of many foods depends largely upon cooking. Either they are made easier, or more difficult to digest, according to the way in which they have been cooked. It is easy enough to reason from that, then, that poorly cooked foods are indigestible and of very little use to the body and so are wasted.

"It is time to prepare dinner, so I must leave the rest of my story until another day. Do you want to know what my bill of fare for to-day will be? Roast lamb—John killed a sheep this week; mashed potatoes, these new peas, currant jelly, some crisp lettuce from the garden, bread and butter, gingerbread and apple-sauce. Simple, isn't it? However, it contains something from each class of foods, and I intend to have every dish so good that everyone will want two helpings of the first course, and just as likely as not my gingerbread, which is as light and delicate as lily cake, will be forgotten."

"I would think I must have sliced ham along with the chops, and pie of some kind to help out the dessert," said the guest, who had been listening attentively, but whose face expressed a little incredulity regarding the sufficiency of the dinner.

"Why add either the ham or pie?" objected Mary. "You are only adding some more foods from those very same classes and it means much less work to cook more of the other things, so that anyone who wishes may have an extra helping, and save the ham and pie for another day. That means less work for me, too, and will give me more time to roast the lamb with especial care and have the mashed potatoes of feathery lightness.

"Let's cook the dinner now, and later I will give you some notes on the principles of cooking, and show you how they can be practised by the farmer's wife without adding anything to her present labors; and, in fact, lightening some of the heaviest of them."

Paragraphs On Health

Which May Be Followed by Busy Housewives

By Nanette Magruder Pratt

ONCE a week take a hot bi-carbonate of soda bath. Buy a package of bi-carbonate of soda (baking-soda) and put three heaping teaspoonfuls in eight quarts of water. If you have a bath-room, measure eight quarts of hot water in the tub; if you haven't a bath-room, use a foot-bath, or washtub.

After the soda is put in the water, stir it carefully so it will be all dissolved. Then stand in the tub and go over all the body with a stiff brush. It is all right to use soap, too. Rub the body until it is a bright pink. Then rinse off with clear water. You will find this a most refreshing, healthful bath.

Peanut-butter is a very delicious food, and can be obtained at nearly every grocery these days. The reason nuts disagree with so many people is because they are not chewed enough. If they are chewed to a liquid, I am sure they will agree with nearly everyone.

Peanut-butter is highly recommended by hygienists. Here is a nice luncheon for children going to school: Two slices of whole-wheat bread, buttered, and then spread with peanut-butter; one slice of bread (whole wheat) spread with jelly, a few large prunes that have been soaked over night, and a hit of fruit. This, instead of white bread, meat, cake, pie, crullers, etc.

Milk does not agree with everyone, but when it does, it is a fine food. It must be sipped always. Hot (not boiled) milk is especially recommended for nervous people, taken just before retiring. Be very careful never to allow the milk to boil, and if it

It is important for good health to take good care of the teeth. If a tooth aches, don't go and have it out. Have it filled. You need it to chew with.

Much illness would be prevented if people paid more attention to mastication. The "bolting" of food soon gets a stomach out of order. Digestion begins in the mouth. The food should be carefully chewed and mixed with saliva, then it is much easier for the stomach to do the rest.

To prepare eggs in a healthful way, put them in a bowl, and cover with boiling water. Let them stand five or six minutes (covered) away from the stove. They are delicious this way, and most nutritious.

Never fry eggs if you want a good complexion. Fried eggs and fried potatoes make a lot of trouble. Just give them up for a month and see. There are so many other ways of serving them you'll enjoy the change in your diet, I'm quite sure.

EDITOR'S NOTE—Mrs. Pratt will be very glad to answer any questions relating to personal hygiene. She advocates no remedies other than pure air, wholesome food, exercise, baths and all the other ingredients of a healthful life, which are entirely at the command of any housewife. Her advice is not medical, simply hygienic. For a personal letter address Mrs. Nanette Magruder Pratt, Care Department of Hygiene, FARM AND FIRESIDE, Springfield, Ohio, and enclose a stamped and self-addressed envelope.

Some time I will tell you some wonderful things about olive-oil. It plays a very important part in the new hygienic way of living. But in the meantime, until I can tell you about the different uses for it, chop some cabbage very fine, or shred it, and make a dressing for it as follows:

Five tablespoonfuls of olive-oil, one tablespoonful of vinegar, salt and pepper to taste. I mix the salt and pepper first with a few drops of oil, and then add the large quantity of oil and vinegar.

After you eat a salad like that, you will have stepped up one step higher on the health platform.

Chew the cabbage thoroughly.

The French dressing is much more healthful than the usual salad dressings made of eggs, mustard, vinegar, sugar, cream, etc.

As I understand it, neuralgia is a cry of a hungry nerve for better blood. No wonder there is so much of it in the world, for people will not do as they should about keeping their blood right. Eating indigestible (or too much) food, drinking water with meals, improper mastication, the habit of drinking tea, coffee and alcoholics while eating, all of these things make bad blood.

Clean, nourishing food, exercise, deep breathing, howels kept open by right eating, that will bring health and comfort to the person suffering from neuralgia.

Tired feet should be looked after carefully. There is no better remedy for this ache, so prevalent amongst housewives, than changing the shoes. If you are wearing slippers, try high shoes. The relief gained is worth the time spent to obtain it.

Patterns to Suit Every Woman

A Big Display of Clothes That are Practical and Fashionable

Designed by Grace Margaret Gould



No. 1779—Tucked Waist

Cut for 32, 34, 36 and 38 inch bust. Material for 36-inch bust, two and one-fourth yards of thirty-six-inch material, with five-eighths yard of contrasting material for the bands



No. 1461—Fitted Corset-Cover

Cut for 34, 36, 38, 40, 42 and 44 inch bust measures. Material for 36-inch bust, one and one-fourth yards of thirty-six-inch material



No. 1929—One-Piece Corset-Cover

Cut for 32, 34, 36, 38, 40, 42, 44, 46 and 48 inch bust measures. Material for 36-inch bust, five eighths of a yard of forty-five-inch material



No. 1540—Dressing-Sacque

Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Material for 36-inch bust, two and seven-eighths yards of thirty-six-inch material



No. 1428—High-Neck Belted Kimono

Cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Material for 36-inch bust, two and one-fourth yards thirty-six-inch material



No. 1890—Kimono Blouse

Cut for 32, 34, 36, 38 and 40 inch bust. Material for 36-inch bust, one and one-fourth yards of thirty-six-inch, with one yard of contrasting material twenty-two inches wide



No. 1472—Petticoat and Underwaist

Cut for 2, 4, 6, 8 and 10 year sizes. Quantity of material required for medium size, or six years old, two yards of thirty-six-inch material



No. 1637—Russian Suit

Pattern cut for 1, 2 and 4 year sizes. Material required for medium size, or 2 years, four and one-fourth yards of twenty-four-inch material



No. 1557—Girl's Suit

Cut for 4, 6, 8 and 10 years. Material for 8 years, four yards of thirty-six-inch, with three-eighths yard contrasting material and one-half yard lining



No. 1579—Girl's Dress

Cut for 4, 6, 8, 10 and 12 years. Material for 8 years, two and five-eighths yards of forty-four-inch, with one and one-half yards of thirty-six-inch



No. 1789—Child's Yoke Dress

Cut for 6 months, 1, 2 and 4 years. Material for 2 years, one and three-fourths yards thirty-six-inch, one-fourth yard embroidery, three yards edging



No. 1656—Housework Dress

Cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Quantity of material required for medium size, or 36-inch bust, seven and one-fourth yards thirty-six-inch material



No. 1881—One-Piece Dress

Cut for 32, 34, 36, 38, 40, 42, 44, 46 and 48 inch bust measures. Material required for 36-inch bust, five and five-eighths yards of thirty-six-inch material



No. 1266—Housework Apron with Pockets

Cut for 32, 36 and 40 inch bust measures. Material required for medium size, or 36-inch bust, four and one-half yards of twenty-seven-inch material



No. 1931—Combination Corset-Cover and Drawers

Cut for 32, 34, 36, 38, 40, 42, 44, 46 and 48 inch bust. Material for 36-inch bust, four yards of twenty-two-inch, and three and one-half yards of embroidery



No. 1253—Sacque Nightgown

Cut for 32, 36 and 40 inch bust measures. Material for 36-inch bust, five and three-fourths yards of thirty-six-inch material, with one and one-half yards of edging



No. 1894—Buttoned-Over Waist

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures

No. 1895—Buttoned-Over Skirt

Pattern cut for 22, 24, 26, 28 and 30 inch waist measures. The length of this skirt is 41 inches



No. 1851—Four-Gored Skirt

Pattern cut for 22, 24, 26, 28 and 30 inch waist measures. Material required for medium size, or 26-inch waist, four and three-fourths yards of thirty-six-inch material



No. 1762—Scant Five-Gored Petticoat

Cut for 22, 24, 26, 28, 30, 32, 34 and 36 inch waist. Material for 26-inch waist, two and three-fourths yards of thirty-six-inch, with two and three-fourths yards of embroidery



No. 1069—Fitted Closed Drawers

Cut for 22, 24, 26 and 28 inch waist. Material for 26-inch waist, two and one-fourth yards of thirty-six-inch material, with three and one-half yards of lace



No. 1269—Fitted Circular Drawers

Cut for 22, 24, 26, 28 and 30 inch waist. Material for 26-inch waist, two and one-fourth yards of thirty-six-inch, three and one-half yards of lace, two yards of beading



No. 1642—French Chemise

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Material required for medium size, or 36-inch bust, two and one-half yards of thirty-six-inch material



No. 1826—Six-Gored Skirt

Pattern cut for 22, 24, 26, 28, 30, 32 and 34 inch waist measures. Material required for medium size, or 26-inch waist, six and three-fourths yards of twenty-four-inch material

THE average woman finds the first of the year just about the best time to replenish her supply of practical clothes. Underwear, dressing-

sacques, aprons and shirt-waists are worn all the year around, and it is a wise woman who tries to make these clothes before she begins her real spring sewing. To help her in this work, we are showing in this issue of FARM AND FIRESIDE an unusually large number of pattern designs, all of them for practical, season-to-season use. For every design illustrated a WOMAN'S HOME COMPANION pattern can be supplied. The patterns cost ten cents.

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It is quite necessary these days to have well-fitted underwear. However, comfort must not be sacrificed for good looks, and for this

reason the underwear designs illustrated on this page will be found very satisfactory. Patterns for all the designs here illustrated may be ordered from the nearest of the three following pattern-depots: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.

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2 Pianos	18 Men's Fur Coats	29 Circular and Drag Saws
3 Organs	19 Sewing Machines	30 Women's Fashion Books
4 Bunkies	20 Gasoline Engines	31 Rain Coats Rubber Coats, etc.
5 Roofing	21 Cream Separators	32 Tombstones and Monuments
6 Vehicles	22 Building Material	33 Men's Clothing
7 Furnitures	23 Stoves and Ranges	34 Women's Furs
8 Incubators	24 Underwear Samples	35 Dry Goods
9 Wall Paper	25 Automobile Supplies	36 Men's Wear
10 Typewriters	26 Bicycles - Motorcycles	37 Millinery
11 Grocery List	27 Baby's Dress and Toilet	

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| 10 Typewriters | 26 Bicycles - Motorcycles | 37 Millinery |
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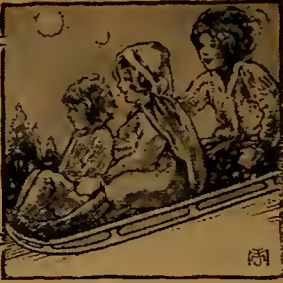
THIS SUIT GIVEN

and Big Outfit



OUR YOUNG FOLKS

Conducted by Cousin Sally



Really-Truly and Make-Believe

By Alice M. Ashton

WE HAD the dandiest time, Mother," said Ned. "I just hated to come home!"

"I'd like to live in the city all the time," declared Leon. "Frank and Elton have lots more fun than we do."

"And they wear their good clothes every day."

"And don't have any wretched old chores to do!"

"And have snags of other fellows to play with."

"I am going to the city to live just as soon as I am big enough."

"So am I!"

Mr. Blakley looked sober as he listened to his sons' remarks, but their mother only smiled in appreciation.

"I shouldn't think Frank and Elton would be so crazy to come out here every summer if they have such good times at home," said Father, quietly.

"Oh, it is something new for them, you know! They enjoy it for a while, but I guess they wouldn't like it all the time," answered Ned quickly.

"Besides, they do not have to work!" added Leon.

Mother still continued to smile.

"Suppose," she said, "that you do not wait until you grow up? Why not be 'make-believe' city boys right now?"

"Why, Mother, how can we?" gasped both boys at once.

"Very fortunately, your Aunt Harriet is coming this very night to make us a visit."

"You may go to the station with me to meet her, and I will turn you over to her care. You may call her 'Mother' and do whatever she tells you. Your father and I will be just 'Mr. and Mrs. Blakley' during your visit."

"Aunt Harriet has always lived in the city, and has brought up two sons of her own, so she will know just what to do for you!"

"Oh, won't that be jolly," cried Leon. "And we need not feed the chickens, Mother, or bring in wood, or work at all?"

"Of course, we shall not expect our guests or boarders to work," answered Mother reassuringly.

As soon as Aunt Harriet was welcomed at the station that evening, Mother explained the situation to her.

"Why, to be sure, you shall be my boys," she said cordially. "It will seem just like old times." And she bade Leon get into the back seat of the carriage with her, while Ned was commissioned to sit in front with the "lady."

"Let me drive home," said Ned, reaching for the reins as they started.

"Ned!" exclaimed Aunt Harriet, severely, "that was very rude. Besides, you do not know enough about horses to handle a spirited animal like that!"

Ned subsided meekly. Ned had always been proud that he could handle nervous,

high-strung Brown Betty better than anyone else in the family. But, of course, a city boy could not be expected to have any such ability!

Neither of the boys said much on the way home, but when Father took Betty to the barn, they scampered around to the front porch and sat on the steps.

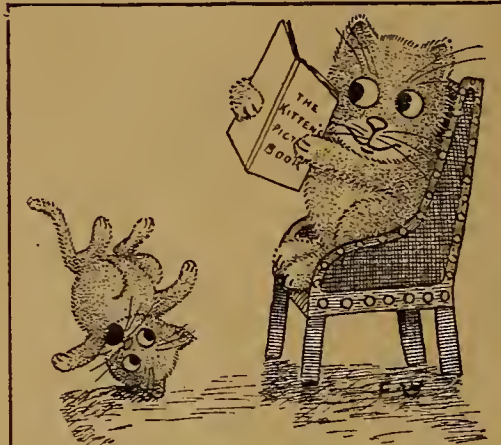
"Gee, but she is stunning," said Leon admiringly. "Such a beautiful dress and hat—and did you see her rings, Ned?"

"No," answered Ned impatiently. "I didn't see anything except that Mother—Mrs. Blakley worried Betty to a foam, and then tired herself out trying to hold her. It makes me wild to see anyone try to drive that horse!"

"What do you care?" asked Leon magnificently. "It isn't your horse!"

"That's right," answered Ned. "I never thought of that. Let's go over and let the Brown kids see us in our best clothes. Jack will be doing his chores about now."

Instead of scampering quickly across the intervening orchard and meadow as they generally did, they walked sedately



Careless Cats

By F. White

Some cats you cannot trust at all. They even let the baby fall. Just hear the helpless creature squall!

around by the road out of deference to their shiny, black shoes.

"Look at the duds," called Jack from the open barn door. "Walk right into the parlor, girls, and I'll be in as soon as I can curl my bangs!"

"Ah, stop exposing your ignorance," advised Leon with a grand air.

"Hear the city fellow," continued Jack, undisturbed. "You have it down fine, Leon! If you don't care to go into the house, dust out the swing-chair, and sit there until I finish my chores. I will not ask you to bring your broadcloth into the barn." And he disappeared with an exaggerated bow.

But a moment later he again stuck his head out to explain:

"That turkey gobbler that's strutting about here may mistake you for an old acquaintance. But he cannot climb, so if he is too sociable, better climb a tree."

"I never knew Jack to act so—so childish," complained Leon, leaning back, complacently in one side of the big swing.

"Oh, I don't know, Leon. I think we all acted about as bad to the Jackson boys last summer!" Ned, for some reason, did not seem quite comfortable.

But when Jack at last came out and seated himself near them, he had dropped his bantering tone. He wanted to hear all about their city visit!

"You see, Jack was all right when he saw he could not bluff us," said Leon on the way home. "And doesn't it seem good, Ned, to think we have not got to get up in the morning until we get ready!"

Both boys were so tired that they never heard a sound next morning until Mrs. Blakley called them to breakfast. By that time the cows had been milked and the milk drawn to the factory; the chickens, pigs, calves and horses had had their breakfast, and the cows turned into the lower pasture.

"Let's put on our linen suits and canvas shoes this morning," said Ned. "I'm going to do something beside sit on the piazza to-day. I can tell you!"

Immediately after breakfast they hastened to the orchard.

"Let's put up a couple of poles and some ropes in these trees, and rig up a gymnasium like the one Elton took us to," suggested Leon.

"Why, yes," Ned answered mischievously, "if we have got to spend our summer in the country, we may as well have something to remind us of our city sports."

It required considerable time and exertion to discover all of the things they required, but at last the collection was complete and a place chosen for the high pole.

After great exertions the long pole was hoisted into the largest of the two trees which were to serve as supports, and Leon remained to steady it, while Ned scrambled to the opposite tree to catch and hold the opposite end as Leon pushed it cautiously over to him.

"For the goodness sake!" exclaimed an indignant voice beneath them, that made them start guiltily. "What are you boys trying to do beside break your own necks?"

Aunt Harriet stood there, flushed from her hurried rush.

Astonishment kept them both silent.

"Come down instantly!" she commanded sharply.

"But—we are making a gymnasium, like the one Elton and Frank attend."

"I can't help what you are making!" Alarm and haste made her appear quite angry. "Where would you be if one of those limbs should break? Never let me see you climb like that again!"

The boys came down reluctantly, while Aunt Harriet puffed back to her cool chair on the veranda.

"Are all city mothers like that, I wonder?" questioned Leon disgustedly.

[CONCLUDED ON PAGE 33]

The Quarrel of the Tiger and the Dog

By Alice Jean Cleator

ONCE upon a time the Tiger sent a message to the Dog which said, "I saw you near the Big Jungle yesterday, and if I had a face like yours, I'd—" and then he stopped right there.

The Dog sent the following message in reply: "Well, if I looked like you, I'd go and hang—"

The Tiger was very angry, and for long years they were at enmity with each other. Each one suspected the other of some very insulting criticism of the other's appearance. Many a time the Dog or the Tiger, while wandering through the jungle, would survey his face in some quiet pool and wonder what horrible remark lay as a sting in the tail of the unfinished sentence. But each one was too proud to go to the other and to ask an explanation. And so the years ran on and dull anger burned in the hearts of the Tiger and the Dog.

But one day they chanced to meet, and the Dog said to the Tiger, "What did you mean by sending me that message?"

"Why," replied the Tiger, "I meant, 'I saw you near the Big Jungle yesterday, and if I had a face like yours, I'd be perfectly satisfied with myself.'"

"And what did you mean by sending me the message, 'Well, if I looked like you, I'd go and hang—'?"

"I meant," answered the Dog, "that if I looked like you, I'd go and hang my picture where everybody could see it, for you're the most handsomely marked tiger I ever saw!"

"Well, I declare," both exclaimed together, "what fools we have been! Quarreling over nothing! To quarrel with reason is bad enough, but to quarrel without one is ten times worse!"

A Little Lesson

By Mrs. Cora M. Hites

WE WANDERED through a grove One Indian summer day, Wading a golden stream of leaves That thickly strewn our way.

Boy found a large, white hickory-nut Still armored in its coat. "Just what I want," he gaily cried; "I'll make a fairy boat."

In every section of that shuck, A little boat he found. He took no notice of the nut. But dropped it on the ground.

This little act a lesson taught To be recalled each day. When tempted to hoard worthless things And throw a nut away.

Hidden Names of Girls

By I. K. Mills

THERE is a girl's name hidden away in each one of these sentences. Can you find them? I'll publish the answers next issue.

- (1) Is the curtain half red, Eric, and half white?
- (2) It is the very best Ella can do.
- (3) Is his belief fanciful or otherwise?
- (4) Eliza bet her father's money on the races.
- (5) Is the Easterner, Hadju, liable to call again soon?
- (6) We will visit France soon.
- (7) Do you use the Floren Cereals at your house?
- (8) Will you go to St. Joseph? I never was there myself.
- (9) The Japanese lad, Elai, dealt his adversary a telling blow.
- (10) In spite of protests, she crossed the fatal ice.
- (11) Pulaski, one of our Polish sympathizers, died mourned by many.
- (12) Hammau, dirty little French village, was his birthplace.
- (13) The philosopher Herschel entertained some peculiar ideas.
- (14) It was an exciting race from start to finish.
- (15) The Senate rushed it hurriedly through.
- (16) The Arabian equine, Aljan, entered the contest in the horse show.
- (17) "Mama, believe me, I speak truly," said the child.
- (18) I saw them making paper—an interesting sight.
- (19) The children sang their Christmas carol in excellent time.
- (20) American national songs are inspiring.
- (21) Albert has a new pair of skates.
- (22) He possessed natural musical ability of a high order.

The Road to Happiness

[CONTINUED FROM PAGE 22]

been upset by his employer's gloom, but recently, through some subtle change in himself, he had become pitiful; his heart filled with the consciousness of how tragic unreturned love might be.

When the paper arrived, he began to mark promising advertisements, and suddenly his eyes rested on Frances's announcement in its big attractive type. His eyes riveted themselves to it, and his fingers began to play a nervous tattoo on his desk, which became more brisk each moment, as he realized the daring of the idea, which in a flash had come to him.

He had seen Caroline several times in regard to some investments she had requested him to make for her, and once she had stayed at the office longer than the business made necessary, and they had talked in the most friendly fashion of many things. She had insinuated that the break between Norman and Miss Taylor was simply the result of a misunderstanding, and now he had the opportunity to bring about a meeting. But did he dare use it? His meekness and timidity cried out, "No," but his devotion to Norman kept repeating: "Take the risk!"

Slowly he cut out the advertisement, and laid it on his desk. It was a terrible position for such a man. Such tremendous chances for happiness or sorrow opened up to him. Either Mr. Norris would be eternally grateful, or he would summarily dismiss him! The sense of responsibility was appalling. For an hour he meditated, then through a correlation of ideas the memory of that night, when he had for the first time interfered in his employer's affairs, returned to him with reassuring force, and from that moment his self-forgetfulness increased, and his courage grew. Mr. West had known Norman ever since he had come to his old firm as a resolute, clear-eyed country boy, with only his ability as a letter of introduction. By the strange attraction of opposites, the strong self-contained young man had soon appealed to him, and when Mr. Norris started as an independent lawyer, he had left the old firm gladly to go with him. As an employer, Mr. Norris had always been most considerate and kind, and once, when the little clerk had had a long illness, his goodness had won his eternal gratitude. Now, Mr. West realized he might have it in his power to bring him happiness! At the thought, his smile appeared, and it was gleaming on his face when the office-boy appeared, saying, "Mr. Norris wants them addresses, Mr. West."

The little clerk started and sat up, as the boy went on, "The Boss sure is a Gloomy Gus these days! He asks us to do things as if he was orderin' funeral wreaths!" As he spoke, over his face came the mysterious half-awakened look of the growing boy, and he finished tersely, "Ain't it queer? Just about a 'skoit'!"

Mr. West was far too preoccupied to reprove or even notice the familiarity. Only the thought behind it, his employer's sadness, struck him, and the boy's monologue ended his hesitation. Hastily he made the list, and Frances's address was placed at its head.

Norman left his office about five o'clock, and naturally started for the first address on the list.

He arrived at the house and was ushered into the parlor by the shiftless Clara; and when he requested to see some rooms, was asked to wait while she went to get "the Missus."

Frances was out, spending the afternoon with Caroline, so the maid went to Mrs. Taylor, whose grand manner filled her with awe, and whom she cordially detested.

"Ask the gentleman's name," Mrs. Taylor ordered, after Clara had stated her message. She dared not send a prospective boarder away, but she wished to spare herself any possible meeting with an acquaintance under these conditions.

Presently Clara shuffled up the stairs again and said resentfully, breathing hard from her climb,

"He said you wouldn't know, but it's Mr. Norris."

Mrs. Taylor gave a great start, but she was used to hiding her feelings from servants' eyes, so after a moment's confused thought, she questioned:

"You say he said I wouldn't know him?"

"Yas'm."

The lady breathed a long sigh of relief. No doubt it was some other Mr. Norris, but there was just chance enough of Norman's having stumbled upon them by accident to prevent her from descending in the character of landlady, or to wish him to see Frances in what she considered her daughter's humiliating position. Therefore, she said to Clara:

"I have such a headache, I really couldn't see anyone now! Tell the gentleman so, please, and ask him to call again."

She knew that such a message would be a dismissal to Norman, but would not deter any other man from returning.

The girl never dared reply to Mrs. Taylor, but her eyes flashed as she descended the stairs again, for she adored Frances and knew how hard she was trying to make the house a success.

Norman received the message with a disappointed face, for he had found the parlor amazingly restful and homelike. He had never felt so at home in a strange room before.

"I'm very sorry," he said. "Can't you show me the rooms?"

"I doan' dare do that!" Clara grinned with a quick display of white teeth, "but it's only the old Missus that's sick, and young Missie ought to be in mos' any time now. She runs things! Won't you wait, sir?" She spoke persuasively, Norman's agreeable voice and manner pleasing her.

He looked about the quiet room, so unlike the usual boarding-house parlor, once more, then answered, "I'll come back again a little later."

Clara returned to the kitchen, delighted with her diplomacy, there to find the quick-tempered Irish cook, half asleep beside a bottle of cooking sherry, who, on being awakened, began to weep because she had to cook on "such a baste ov a stove," and her lamentations becoming noisier each moment, by the time Frances came in, fifteen minutes later, poor Clara was so excited and frightened that all thought of the gentleman vanished from her mind, and she hurried her mistress down to the kitchen to try and make peace between Maggie and the stove. Maggie, however, was not to be placated that night. From the first, she had tyrannized over Frances, shrewdly suspecting her ignorance of household affairs. Now, she refused pointblank to cook the dinner, and, retiring to her room, she could not be dislodged by any threats or promises.

Frances gazed around the disordered kitchen in dismay, then up at the clock. It was half-past five!

"Can you cook, Clara?" she questioned, with a faint gleam of hope.

"Lawsy, no!" the girl giggled.

Her mistress sank despairingly onto one of the hard wooden chairs.

"There must be dinner. It has begun to snow, and I can't send the people out."

"Why doan' you get dinner, jes' once?" Clara suggested.

"I've never cooked anything in my life, but I might try! Do you suppose I could manage—with a cook-book?"

"Lawsy, yes, Mis' Frances. All ladies cook that-a-way!"

Soon the dinner was in preparation, and Clara was sent up-stairs to request Mrs. Taylor's assistance. That lady, however, was suffering from the headache she had mentioned and felt so ill that she seemed unable to leave her room that evening. Frances came to her for a moment, but her mother was too miserable to think of the afternoon's episode then.

Clara, too, forgot about Mr. Norris completely, until he returned at half-past six, powdered with snow, his face glowing with the cold.

"Is your mistress in now?" he inquired.

"Yas, sir," she grinned; then recalling Frances's duties below stairs she went on hesitatingly, "but she's powerful busy in the kitchen jes' now. It's mos' dinner-time!"

Norman hesitated. None of the other boarding-places had pleased him, and he had come back in spite of the weather and the lateness of the hour, drawn by the unaccountable attraction the parlor had exercised over him. Now that he was out of the storm, the warmth and light were very pleasant, and hazily recalling some advice he had once received always to test boarding-house meals, he asked, "Couldn't I dine here, and see your mistress afterward?"

"Yas, sir," the maid grinned again with no misgivings, then once more led him into the parlor to wait.

She had forgotten his name, and simply reported to Frances that there was an extra gentleman for dinner, and that he wanted to look at the rooms afterward.

The dinner was a tragedy. From the half-cold soup, through the curdled creamed oysters, the burnt and smoky steak, served with eatable baked potatoes and string-beans, the unremoved strings of which produced a paroxysm of coughing around the table, and the salad with its oily French dressing, to the fruit, warm and unpalatable, each course was received with louder murmurings. There were seven boarders now, and each one of them declared in turn that the table never had been good, but that this dinner was "impossible!"

Norman agreed with the last remark fully, and congratulated himself that he had followed his inner promptings to try a meal.

Strangely enough, no names were mentioned until the fruit was on the table, when Clara, unable to bear the criticisms any longer, chimed in, "You all can't expect ve'y much to-night, Maggie's done gone on a rampage, and Mis' Frances is cookin'!"

Norman started and turned red at mention of the name, then tried to calm himself. He had never heard of the boarding-house venture, and consequently told himself that there were a good many Franceses in the world. Nevertheless, he finished his meal with a sense of nervous discomfort, and as soon as possible called the maid, to pay for his dinner and make some excuse for not looking at the rooms.

"I doan' know how much to cha'ge you," Clara declared. "I'll have to go ask Mis' Frances."

Again the name jarred him; but, asking no questions, he handed the girl a five-dollar bill, then waited in the dimness of the rear hall.

He heard her heavy footsteps descending, then ascending again, followed by lighter footfalls, and suddenly a voice which sent a cold chill racing down his spine said wearily:

"I left my purse in the bureau-drawer. You can't get it. Oh, dear, three flights to walk, and I'm so tired!" With the last word, the speaker appeared in the strip of light which streamed out from the pantry.

"My God!" the watching man murmured; then involuntarily cried aloud, "Frances!"

The girl started violently.

"Norman!" Her lips formed the word incredulously. After that they stared at each other in spellbound silence, while he went white with a mixture of joy and pain, and she crimsoned with humiliation and anger.

In the dim hall she could not see how worn his face was or how much older he seemed to have grown, while she knew that she was powdered with flour, hot, tired and disheveled.

Their eyes met only for a moment, and the hurt, hunted look on the girl's face forced back the pitiful words that leaped to Norman's lips, and made him mutter in painful embarrassment, "I beg you to believe that I—didn't know—that this was your house! I came here by pure chance! I beg your pardon." Then, with a bound, he started for the door in sudden and headlong panic.

"Here's your five dollars!" Clara called, her voice jerky with amazement.

"Keep it! Keep it!" he answered briefly, struggling into his coat, then, hat in hand, he unlatched the door with nervous haste, and, head down, went out into the wind and snow.

[TO BE CONTINUED]

What He Got

IT WAS after the distribution of prizes at a Sunday-school.

"Well, did you get a prize?" asked Johnny's mother.

"No," answered Johnny; "but I got horrible mention."

A Close Shave

HE—"I had an awfully close shave down-town this morning."

SHE—"Mercy, Jack, what was the matter?"

HE—"I needed it."—Ex.

A Great Reader

A LITERARY person in England was talking literature to an American visitor.

"Do you read much?" he inquired.

"Oh, a great deal," was the confident and prompt reply.

"What, for example?"

"A Sunday newspaper, regularly."

"No more than that?" in a disappointed tone.

"No more than that?" exclaimed the visitor. "Gee, man, I guess you never saw one of our Sunday newspapers, did you?"—Lippincott's.

The World's School

A FAVORITE college song, which is now quavering again through the bare boughs of oak and elm trees above many a campus, makes the plaintive inquiry:

Where, oh where, are the Grave Old Seniors?

And in the next line wails the answer:

Safe now in the Wide, Wide World!

College and the wide, wide world are not rival warring countries, and neither is ever named in any standard geography. Four years at college are not four years lifted out of life, or four years extra. There is no reason why commencement day should mark either the beginning or the end of even what is known as "book learning." Diplomas and degrees are comforting decorations and generally are taken to signify that the recipients have had a certain amount of formal mental discipline; but no student living knows enough about any subject to have the right to regard himself as anything but an undergraduate. Michaelangelo knew something about architecture, sculpture and painting, and when he was eighty-nine he drew a picture showing himself in a cart and labeled it: *Ancora Impara* (Still Learning).—Collier's.

'Twixt Man and Wife

[CONTINUED FROM PAGE 26]

into her eyes, "to-night," he repeated, "I haven't ten dollars in the world. The house is clear, and it belongs to you. It's not much. I shall start again to-morrow at something—somewhere—and will send you from time to time money enough to live, though it will not be what you have been used to spending. For the rest, you will remain here. My creditors will not trouble you. Neither shall I. And now, you must be tired I think. Let us say good-night."

His face was immovable. He turned his eyes from her.

She had risen, and was standing before him with parted lips and wide, staring eyes, and as he paused she took a step forward and brushed the papers aside.

"And this?" she asked, pointing to the revolver.

He met her eyes steadily. "Yes," he said. "I'm not a coward, Beth; it wasn't that. But just at first, when I saw you cared for Frank Lee, it seemed—"

With a quick gesture she stopped him, and lifting it carefully walked to the further end of the room and placed it gingerly on a stand. Then she returned to his side, colorless still, her hands locked tightly together, her eyes wide and bright.

"But I don't care for him—I never did!" she cried brokenly. "That's why I didn't marry him in the beginning! And besides, am I not your wife? I don't want the house. I don't want the money. I don't want any part of—this," letting her eyes sweep over the luxurious room. "But I want to stay here, Jack, and together we will go back to the old days. It won't hurt us any. We'll save a bit month by month, and I'll brew the tea once more, as I used to do, measuring every pinch, just dropping in an extra one when you come very, very tired. And I'll let you alone, Jack. I'll not bother, for I know," her eyes were wide and strained, her cheeks scarlet now, her breath coming in little panting gasps, as though from hard running, "that somewhere, somehow, I've lost your love. But when the last debt is paid, Jack, and you're standing firmly once more, perhaps you'll give me what I want. It's not much—just the right—" her lips trembled, "to—cry—my heart out—in—your—arms."

She turned, but very gently, and with a sudden flash of light in his eyes, he reached out and drew her into his arms. "Never mind the cry, little woman," he said huskily. "Smile at me instead. It was bad enough to lose the money, but when I thought I had lost you, too, it—" He cleared his throat and was silent.

She lifted her face—tear-stained, smiling—and for just a second laid her cheek against his. Then she slipped from his arms. "Jack," she sobbed, her voice breaking. "I've got to tell God—how—happy—I am!" and slipping down beside him, she bowed her head thankfully on his knee.

News

By Ada T. Drake

THE road which has been running from New York to Boston has got there.

Mr. Jones recently went to his office, leaving the lid off the family jar. An explosion resulted.

Miss Jenks, who was seen to take a street car at the foot of Main Street last night, has been arrested.

Miss Mason has been having trouble with her eyes. Yesterday they persisted in running up and down the columns of the morning paper. Then they became fastened on the picture of a departed friend, and at last reports they were glued to the opposite wall.

Professor Seeley, in a moment of deep thought on Friday afternoon, threw his eyes into the fire.

When Mr. Morton arrived at his office this morning, he had a young lady on his arm. Doctor Smith is the attending physician.

On Tuesday the night editor, while following a train of thought, walked off a high trestle and fell into a reverie, but his injuries were slight and he is now able to be at his desk again.

Everything looks very bright to-day. It is reported that one of our early risers swept the landscape with his eye.—Judge.

A Successful Church Social

By Elizabeth Clarke Hardy

A CHURCH social that was a great success both financially and socially was carried out in the following manner. It was given out as a "Measure Social." Small handbills, on which the following invitations were printed, were circulated throughout the city and country, and a notice, with the verse, was also published in the local paper.

We invite to our social the great and the small,
And we do not mind saying we hope you are tall.
For each foot you measure you bring us two pence,
If you measure five feet, it will cost you ten cents.
But for every odd inch it will cost one cent over,
So if you are short you are surely in clover;
But it's for a good cause that we issue this call,
And we hope you'll imagine you're twenty feet tall.

All the members of the church society, and others interested, contributed refreshments, and a supper was served at ten cents apiece. It should have been a quarter for such a supper, and no one would have complained at the price, but, as ten cents was the regular charge, it was thought best to serve at that price. The measuring created a great deal of merriment. Each guest stood up against the door-casing, in the old-fashioned way, and a member of the society, noted for wit and easy manners, did the measuring. A little rivalry created among the guests as to who should have the distinction of being counted the tallest person present, helped out wonderfully in the collection, and one church, at a social of this kind, raised enough funds to pay off its church debt, and have a fair bonus left in the treasury.

Righting a Wrong

By Orin Edson Crooker

A CANDIDATE who was taking a medical examination was asked by the examiner, "How much is a dose of croton oil?" "One teaspoonful," he replied. The professor made no remark, but went on with the examination. After a while it occurred to the candidate that he had made a mistake. "Professor," he said, "I want to change my answer to that question about the croton oil." "It is too late," replied the professor, looking at his watch, "your patient has been dead fourteen minutes."

There are some mistakes that cannot be corrected and there are some wrongs that can never be righted. But this is not usually the case. Most wrongs can be made right if we do not wait too long. We err quite frequently in putting matters like this one side until it is either too late to do any good or until we are so ashamed at our own delay that we cannot muster up courage to set about the matter. Delay only makes the matter fatal. There is no time like the present to set matters right or make amends for some mistake which we have made. That word which ought to be spoken to someone we have wronged becomes harder to speak each day it is postponed. That burden which rests upon the conscience because of some wrong we have done does not grow less with time, but always more. The only way to ease the weight upon our conscience is to make things right—and this is something we cannot set about doing too soon. There is always a chance to right the wrong, which, if neglected, may slip away into eternity, leaving the conscience hurt and maimed for aye.

Biggest Flower Offers in Our History for Few Days Only

Rose-Plants

And Other Grand Flower Collections

These are the greatest Flower Collections that we have ever been able to get for our readers. These beautiful plants cannot be surpassed anywhere in America. No real lover of beautiful FIRESIDE Flower Collections have been famous flowers can afford to miss our offers this year.

All Guaranteed to Bloom During 1912

Six Beautiful Rose-Bushes

Order as Collection No. 101

This collection of roses is particularly famous for size, beauty and brilliancy of color. They will bloom freely, flowering not only once, but all summer through. Think of getting six superb ever-blooming roses that will grow into a bower of beauty this summer.

Climbing Meteor Rose

This is the ideal of all red climbing roses. In brightness of color it has no equal. It has been called a perpetual blooming, climbing General Jacqueminot. It is a full and persistent bloomer and will make a growth of ten to fifteen feet in a season.

Ever-Blooming Rose—Killarney

This is a very beautiful hybrid tea rose. The color is an exquisite shade of deep shell pink, lightened with a soft silvery pink. The base of the petals is silvery white, the buds are long and beautifully formed. It is free in growth, strong heavy sheets which are covered with buds. It is the greatest favorite of winter flowers.

Other Famous Roses

You will also receive in your Big Rose Collection Four Other Famous Rose-Bushes.

Helen Gould. This is the most beautiful rose for general planting ever introduced in America. The buds are beautifully made, long and pointed.

Bridesmaid. Thousands of this variety are grown every year for cut flowers. It is a delightful shade of bright pink, with beautiful firm foliage.

Maman Cochet. The queen of all garden roses with color of rich clear tint. The flowers are extra large and perfectly double.

Etoile De Lyon. The flowers are very large, double, full and deliciously fragrant. The color is a beautiful chromo-yellow deepening at center to pure golden yellow.

Our Ten-Day Offer

Our Big Special Flower Offers are extended for ten days longer only. Even though your subscription does not expire for a couple of months it will pay you to renew now and get a Big Flower Collection. This is our biggest and best offer of the year. Don't miss it.

Guarantee

All the plants will be large, healthy and well rooted, and will bloom the coming season. We guarantee them to be exactly as described, to arrive in perfect condition and to give entire satisfaction, or your money refunded.

This is a part view of the Climbing Meteor Rose in full bloom.

Four Other Great Collections

In all we have five distinct and separate big Flower Collections for our readers. Each Collection will be unrivalled in its particular kind of plant.

Six Magnificent Chrysanthemums

Order as No. 102

This big Collection consists of six large flowering Japanese varieties, all different colors. Here is a list of the plants you will receive:

Black Hawk.

Estelle, a handsome pure white chrysanthemum.

Millicent Richardson, a beautiful rose violet.

Colonel D. Appleton, soft creamy yellow.

Percy Plumridge, very large Japanese variety.

Pacific Supreme, lavender, pearl shading.

Four Elegant Ferns

Order as No. 103

Of all plants for interior decorations, ferns are the favorite. This collection consists of the four leading varieties:

Boston Sword Fern

Plumosus Nanus

Nephrolepis Whitmani Sprengeri

This beautiful collection will brighten and ornament any home in the land.

Five Beautiful Carnations

Order as No. 109

The carnation is unrivalled for rich refreshing fragrance, diversity of color and beauty of outline. Next to the rose, carnations are the favorite flower of the people. This Collection contains the following varieties of these exquisite flowers:

Prosperity

Harlowarden

Rose Pink Enchantress

Lady Bountiful

Red Spot

What could be more delightful than to have your garden and your home filled with the all-pervading fragrance of this collection.

Six Lovely Gladioli

Order as No. 438

The Gladiolus is the most attractive of all summer flowering bulbs. This plant gives a succession of blossoms from July to November. By cutting the spikes when two or three of the lower flowers are open and placing them in water, the entire spike will open in the most beautiful manner. Set the bulbs from 6 to 9 inches apart. Plant from the middle of April to June first.

Cultural Directions

Collections must be ordered entire. Accompanying each lot of plants are full directions for planting, care, etc. Please state in what month you prefer to have your collection reach you.

Here is a view of the five other Rose-Bushes in our Big Rose-Bush Collection.

Send All Orders to FARM AND FIRESIDE, Springfield, Ohio

The Gift Club's Mail-Bag

By Jean West, Secretary

IF YOU girls could have the least idea what keen joy your letters give me, you would write me very, very often! I do love to receive your little notes in which you tell me so much of yourselves and your work and plans for the future! You are such a jolly, ambitious lot of girls that it is a pleasure to be so closely associated with you.

Our Club stationery with its dainty blue monogram is found tucked away in almost every mail-sack that Uncle Sam carries across the continent. And all the letters finally come home to my office here at Springfield.

I am not going to talk to you at all to-day—much as I'd like to—but I'm going to show you some of the charming notes that I received in the last big mail-pouch that came in it.

DEAR MISS WEST—

How could you think of anything so dear for us as that lovely locket and chain? It made me feel nice and happy all over when I opened the box and found such a beautiful gift from you! I think The Gift Club is the finest thing in the world for girls. I'm so glad I "belong."

M. J., Indiana.

And here's another that I want you to see:

DEAR MISS WEST—

That embroidery outfit you sent me has been a great help, I can tell you. I made nearly all my Christmas gifts from those patterns. They are so clean and so easy to follow. And to think of having the material for the corset-cover and the centerpiece all stamped! I was so surprised! But that seems to be your mission in life—to surprise us Club girls!

MARY D., Ohio.

The letter below is from a married member in Kansas:

DEAR JEAN WEST—

I do so like nice china, and the set that you sent me meets all my expectations—and more. It is just as pretty as it can be! The design is so attractive and in such good taste.

MRS. W. D., Kansas.

Where is the woman who doesn't like fine china? I have some beautiful designs that I know you'll be sure to covet, once you know about it and how to get it.

And this is from a girl who likes to skate and row and do all sorts of outdoor, healthful things—I just know it from the ring of her letter; listen:

DEAR JEAN WEST—

Hurrah for The Gift Club! That worsted toque is just the thing I need. I went skating yesterday afternoon and wore it pulled way down over my ears, and I was just as warm and comfortable as could be!

MINNIE L., Massachusetts.

DEAR MISS WEST—

I always did want pretty things for my dresser, and I couldn't ask for anything nicer than the silver comb, brush and mirror which you sent me. I want the silver manicure-set next! and it won't be long before I have it. You make things so very easy for us.

ROSE D., Rhode Island.

DEAR MISS WEST—

I wish you were here so that I could thank you for that Irish lace coat-set! It is so pretty and looks so well on my coat. Really, I feel as though I had a whole new suit, the collar-set dresses it up so beautifully. The Gift Club is certainly well named! It is truly a Gift Club! Thank you a thousand times for telling me about it.

SUSIE M., South Dakota.

Do you, too, want to know how to get all these beautiful presents without spending a penny? Then write and tell me that you are interested in the Club. I'll answer by return mail, and tell you how you can devote a few hours of your spare time to our Club work and receive in return some very valuable and beautiful gifts. There are no dues nor expenses in the Club. Write me to-day. I am eager to welcome you.

Jean West

Secretary, The Gift Club,
FARM AND FIRESIDE, Springfield, Ohio.

Josef Hofmann Is Now Acknowledged the Greatest Pianist in the World

In that opinion practically all the leading musical critics now agree. It was this belief in Mr. Hofmann's powers and musical knowledge that led the Editor of THE LADIES' HOME JOURNAL, five years ago, to ask the great pianist to join the magazine's editorial staff and conduct a monthly department in which he would answer the questions of piano students.

For five years Mr. Hofmann has done this, and is doing it now. He has answered hundreds of questions during that time, placing his unquestioned knowledge of the piano at the free disposal of every piano student.

So that no matter in how small a community a girl who loves her piano may live or how far removed from a musical center she may be, the free advice of the greatest of living pianists is at her disposal. Read his department, for example, in the February LADIES' HOME JOURNAL.

For 15 Cents You Have a Copy

THE CURTIS PUBLISHING COMPANY

INDEPENDENCE SQUARE, PHILADELPHIA

Really-Truly and Make-Believe

[CONTINUED FROM PAGE 30]

"I guess most of them are," answered Ned from his wide experience. "Mrs. Jackson was always fussing, and don't you know Aunt Millicent never let us have a good time when the boys were here?"

"Let's go sit on the fence in the shade," suggested Leon in deeper disgust. Which they actually did for lack of something better!

"Do you mind if we ride the horses back to the field?" inquired Leon, as the teams were being led from the barn after dinner. "Not at all," answered Mr. Blakley cordially.

The next instant each boy was on the back of one of the fine young horses in his father's team. But it seemed great to be on a horse again!

"Ned! Leon!" Aunt Harriet rushed from the dining-room door, her teacup still in her hand. At her sudden appearance the horses danced uneasily.

"Oh, oh!" she shrieked. "Get down! What do you mean by getting on those colts?"

"Maybe you'd better begin on the old horses," suggested Father, in the consoling tone he always used with the Jackson boys. "Guess we won't ride at all," growled Leon, stalking into the barn.

Ned followed dejectedly.

"If there is nothing we can do around here, Leon, what do you say to fixing up a little and going down to the cottages this afternoon? You know we have always wanted to, but never seemed to find time."

"That is the very thing," cried Leon, brightening at once. "When we get out of sight of the house, maybe we can stir without getting a calling for it!"

"But we shall have on our best clothes," suggested Ned, with a grin.

When presently the boys found themselves on the bridge over the little river above the cottages, they found Jack Brown and several other boys fishing.

"Here comes the Duke of Lansdowne," called Jack with a good-natured laugh. "Going to call on some of your city friends?" nodding toward the cottages.

"Wish we had our old clothes and our fishing-poles," whispered Ned.

Just below the bridge several little girls were paddling about in a neat punt. Suddenly there rose a scream, and one of the youngest children fell headlong into the water and disappeared.

Ned's hands were instantly on the railing for a leap, when the thought of his clothes retarded him. In that instant's pause, Jack Brown dropped with a splash into the river.

As the little girl came up, Jack seized the back of her blouse, and swam as quickly as possible to the bank, where her frantic parents awaited him.

The boys stood about in silent admiration while the dripping Jack and the limp body of the child were hurried into the cottage. Presently the doctor rushed past in an automobile. Then there was a long wait.

At last Jack came back. "She's going to be all right," he told them. "The doctor says she wasn't in long enough

to hurt her much. And see what they gave me!" He proudly held out a shining piece of gold.

"I cannot see why you didn't save that little girl, Ned," said Leon dejectedly, on the way home. "You are the best swimmer in school."

"It was these wretched clothes! I was all ready to jump when I wondered if I could swim in a coat and shoes. While I hesitated, Jack was over. He had only his blouse and trousers!"

Mrs. Blakley was preparing supper, when suddenly from behind four arms were thrown roughly about her.

"Mother, Mother," said two voices she loved very much.

Looking down, she beheld two figures clad in pink gingham blouses and duck trousers.

"We have come back to be your own boys, Mother!"

"We don't want to be city boys, after all!" "I am very glad," said Mother. "Father and I have been so lonely."

"I'll get the wood and vegetables, to-night," offered Leon.

"And I'll feed the chickens, and help at the barn."

"I guess we have a better time than they do," said Leon thoughtfully, "even if we do have to work a little."

"At any rate," answered Ned, giving his mother a "bear hug," "I'd rather be a 'Really-Truly' than a 'Make-Believe'!"

The Railroad

By Berton Braley

WHY is it that when you are busted and down

And nothing but trouble in view,
YOUR clothes all wear out or your WIFE

needs a gown
And your yearly insurance comes due?

Why is it a fellow's invariable fate
When he hasn't a dollar or dime

To have all his checks come decidedly late
While the bills are exactly on time?

I reckon that life's like a railroad, that's all,
And run on a similar plan,
Your joys are the freights which seem

scarcely to crawl
(No freight ever actually RAN),
But your troubles don't come on a weary

old freight;
They travel so fast it's a crime!
And so, though your joys are decidedly late,
Your sorrows are always on time.

Conclusive Evidence

COMMUNICATIVE MAID—"The mistress at my last place was a story-writer."

MISTRESS—"Indeed! The one who wrote your recommendation?"

MAID—"Yes, ma'am, the same one."

MISTRESS (with conviction)—"She certainly seems to possess great qualifications in that line."

GERTRUDE K. LAMBERT.

SENIOR TO FRESHIE—"How long can you live without brains?"

FRESHIE—"Oh, I don't know. How old are you?"—Ex.

Is College Worth While for Girls?

A college woman asked 4 questions of hundreds of college women who represent all ages, all sections of the country, all classes, most occupations, 62 institutions where women study, and 60 years of college education in America.

The questions were:

How did college affect your health?

How has your college education helped you?

How did your college education fail to help you?

In what way could the girls' college be bettered?

Perhaps this is the most careful and searching inquiry as to the absolute value of a college education by the only women qualified to speak—the women who tried it.

The results of these months of work are now being given in THE LADIES' HOME JOURNAL. One of the articles is in the February number.

For 15 Cents You Have It

THE CURTIS PUBLISHING COMPANY

INDEPENDENCE SQUARE, PHILADELPHIA



The Household Department

Suggestions of Value for Housekeepers

Conducted by the Fireside Editor



HOW to Renovate a Beaver Hat—Now that beaver hats with their lovely, long nap are so very fashionable, it is desirable to know how to keep them looking fresh, if you are fortunate enough to own one.

In the making of beaver hats the nap is blown on by hydraulic power, or pressure rather, after the hat is blocked. This is an expensive process.

Beaver hats should never be brushed with a broom or brush, as it is sure to flatten the nap. The hat should be beaten instead with a little rattan or willow stick. This removes all dust and raises the nap, thus renewing their beauty. In cleaning white or light-colored beavers, use a preparation of one part of flour and two parts of salt—it is the grit of the salt we need in the cleansing. Rub in thoroughly with the hands, or with a soft flannel cloth. Shake out, and then beat with a ruler or a stick to renew the nap. You will be surprised at the result.

VON ALIX.

Sick-Room Suggestions—If a coal stove is used for heating the room of a very sick patient, a great danger lies in the noise necessitated by the renewing of the fuel. One good nurse remedied this by having each piece of coal wrapped in paper before the hod was brought in, a tedious process, perhaps, but worth while, since the perfect quiet aided materially in the saving of a life.

People with tender hands have difficulty in wringing out flannel from water hot enough for an application. To remedy this, spread a large towel over an empty wash-bowl. Lay in the center of the towel, the flannel folded according to the size needed for the application (this needs to be at least three thicknesses of flannel), pour on the flannel some boiling water; when sufficiently covered, take hold of each end of the towel which extends over the edge of the bowl, and wring dry. Open the towel, and the flannel will be found much hotter than by any other method.

Orange baskets are a dainty addition to the tray. Cut a small piece from each side of the top of an orange, to leave a handle, scoop out the inside of the fruit, and refill with lemon or orange jelly, or with sliced fruit.

E. W. U.

Butter-Scotch—For this I use one cupful of granulated sugar, one cupful of cooking molasses, one teaspoonful of vinegar and one-half cupful of butter. Boil until instantly brittle in cold water. Pour thinly on buttered pans; cut at once into squares. Wrap in paraffin paper.

Fondant—For this you will need two cupfuls of granulated sugar, one-fourth teaspoonful of cream of tartar and one-third cupful of hot water. Boil, without stirring, until it "threads." Let it cool enough for you to put your finger in it without any unpleasant result. Then stir, or beat, with a wooden paddle until creamy. Work it up by hand until it is as pliable as bread-dough. If it hardens too quickly, melt and do it all over again. This can be packed in jelly glasses, and kept in a cool place until needed. I make three "batches" usually: one white, one chocolate and one tinted with pink. Make these out into shapes desired, add nuts, or fruit, dip in chocolate, and set in a cool place for twenty-four hours before packing your candy-boxes.

Coffee Caramels—One-half cupful of cream, two cupfuls of brown sugar, two tablespoonfuls of butter and three tablespoonfuls of coffee-extract. Boil slowly until a soft ball is formed in cold water. Do not stir. Pour into a buttered pan, and mark into squares when partly cool.

Chocolate Caramels—Melt four squares of chocolate. Then mix two cupfuls of brown sugar, one cupful of milk, one large tablespoonful of butter and one large tablespoonful of vanilla. Cook just as you do coffee caramels. Add nuts if you wish the flavor.

Peanut Crisp—Shell roasted peanuts. Remove skins. Arrange on big platters; one inch thickness of nuts is best. Pour over them a candy made of two cupfuls of brown sugar and one-half cupful of water boiled until it snaps in cold water. Cut this into bars.

Marshmallows—Three ounces of gum arabic, one-half pint of hot water, one-half pint of powdered sugar, the white of one egg and lemon flavor. Dissolve the gum arabic in hot water; strain; add sugar. Boil ten minutes, stirring all the time. Add the white of egg beaten stiff. As soon as mixed, take from fire. Add flavor. Dust pan with corn-starch, and pour the paste over it about one inch thick. When cold, cut into squares, and roll in powdered sugar. BEULAH TATUM.

A New Dessert—A delicious and economical substitute for gelatin which originated in our family is made from one pint of water, two tablespoonfuls of corn-starch, one-half cupful of sugar, juice of one lemon, lump of butter size of a walnut, two bananas, one orange and half a cup of nut-meats.

Smooth the corn-starch in a little of the water. Add sugar to remainder, and when it boils, pour in the corn-starch and lemon-juice, and cook, stirring constantly, until it is clear. Arrange one third of the sliced fruits and nuts in a mold, pour over them a third of the corn-

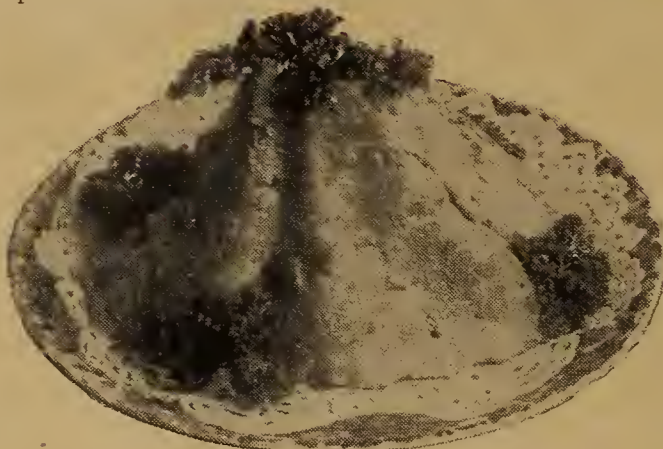
starch, add another third of the fruits and nuts and corn-starch, then the remainder of the fruits and nuts, and over all the rest of the corn-starch, and set away to cool. When cold, turn out, and serve. This is so much more quickly and easily made than gelatin that it may well be termed an "emergency dessert." It is as attractive in appearance, and all who have eaten it pronounce it better than gelatin. Sliced bananas, diced apples and nuts make a splendid combination. Bananas, oranges and raisins are good. Diced apples, white grapes (halved), bananas and nuts are fine. Canned fruits may be used, and halved peaches and nuts are good; or peaches and preserved figs, carefully drained from the syrup, and nuts make a desirable combination.

MRS. C. S. EVERTS.

Deviled Eggs—Hard boil the required number of eggs, and cut in halves. Remove the yolks, chop, and mix with minced veal or chicken. Add a little cream, and season with salt, pepper and a little nutmeg. Put this mixture into the whites, press it smooth, and put the two halves together so as to look like whole eggs. Serve with toast points, and garnish with parsley.



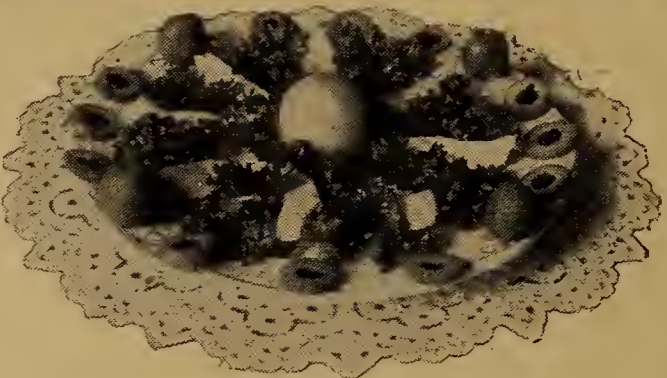
Deviled Eggs



Codfish Chops



Salmon Cakes with Peas



Egg Salad

Egg Salad—Hard boil a sufficient number of eggs, remove from shells, and cut the whites in eighths, lengthwise, leaving the yolk whole. Arrange in individual servings, one egg allowed to each. Place on parsley outline, and garnish with olives. Serve with mayonnaise dressing.

Salmon Cakes with Peas—Take one can of salmon, well drained and picked fine, six square soda crackers, rolled fine, one tablespoonful of melted butter and three eggs. Mix all together, adding salt and pepper to taste. Add sweet milk to make right consistency, and shape in little cakes. Roll in fine cracker-crumbs, and fry in deep fat. Serve about a mound of hot buttered peas. Garnish with parsley.

Codfish Chops—For each pint of shredded fish allow one cupful of hot milk, two tablespoonfuls, each, of butter and flour, one teaspoonful of lemon-juice and two tablespoonfuls of minced onion. Melt the butter, add the minced onion, and cook gently three minutes. Then blend in the flour. When smooth, stir in the hot milk a little at a time. When of the consistency of thick cream, take from the fire, stir into it the shredded fish, and add pepper and the lemon-juice. Stand aside until cool, then shape into chops. Dip in beaten egg, dredge with cracker-dust, and fry a golden brown in plenty of hot fat. Garnish with parsley, and serve with tomato sauce.

MARY H. NORTHEED.

"Nigger Heads"—Two cupfuls of brown sugar, two thirds of a cupful of cream, and one fourth of a cupful of butter. Boil twelve minutes. Add one-half teaspoonful of vanilla, and coconut to make it thick. Shape into large balls, put on oiled paper on a tin in moderate oven until light brown.

BEULAH TATUM.

Omelet—Have the spider or pan very smooth and clean and hot before beginning the omelet, then serve on a hot dish as soon as done. The inexperienced cook would best not try an omelet larger than one of three or four eggs. An omelet may be finished in the oven, with less danger of burning. Shake over the fire until the egg begins to thicken, then place on a grate in the oven until set.

Apple Omelet—Beat the whites and yolks of four eggs separately, then put them together, and beat again, adding two tablespoonfuls of powdered sugar. Butter or oil a hot omelet-pan, pour in the eggs, and cover. When it begins to thicken, spread over it a layer of apple sauce, fold, turn out on a hot dish, and serve at once, with powdered sugar.

Baked Apple Omelet—Pare, core, and stew six large tart apples. Beat them very smooth while hot, adding a little nutmeg. When perfectly cold, add three eggs, yolks and whites beaten light separately. Pour all into a hot, deep, buttered pan, and bake until of a delicate brown.

ELMA IONA LOCKE.

Good Pudding Sauce—One teacupful of sugar, one tablespoonful of flour and a pinch of salt, well stirred together. Add one pint of boiling water, stir until smooth and well cooked. Add one tablespoonful of butter before removing from fire. Any flavoring is good with this sauce. I often stir one tablespoonful of chocolate into the dry flour and sugar, which makes a delicious brown sauce.

To clean light silks, woolens or any delicate fabrics, take pure chloroform or ether, and apply to the stain, then rub carefully with a clean, white cotton cloth. I have even removed very obstinate spots of tar and buggy-grease in this way and it will not injure the most delicate colors.

Boiled Pudding—On baking-day I take a small quantity of bread-dough which is ready for baking, roll about one fourth of an inch thick, and spread thickly with sliced apples. Roll as for jelly roll, moistening with water to keep edges together. Let rise until light, then boil forty-five minutes in clear salted water. Serve hot with sauce.

M. A. T.

A Precaution—It is a wise precaution in making a night journey by rail or by steamer to take a rubber bathing-cap. When the hair is arranged for the night, coil it loosely, and pin with fine pliable shell pins. Pull the cap well down around the face and neck, and bind it firmly with a ribbon. It will not be very uncomfortable, and even if it is, it may be the means of preventing a greater annoyance in the future.

M. S.

Utilizing the Sour Milk—Several housewives have worked up a good market at their own homes and near-by stores for the following product: Take equal parts of sweet milk, clabbered milk and buttermilk, mix, and heat slowly until it curds. Strain through cheesecloth, and drain until dry. For each six gallons of milk, mix in the curd one scant teaspoonful of baking-soda and the same amount of salt, knead with buttered hands until smooth, fold in buttered cloth, press twenty-four hours. This sells for ten and fifteen cents per pound.

MRS. D. B. PHILLIPS.

A Neglected Help—Why is it that so many of our farmers fail to take advantage of the work done at the experiment stations? These stations are maintained that expert knowledge may be obtained by actual experiment on all possible branches of agricultural science. This work is done at the expense of the taxpayers of the state and is supposed to be done for their benefit, yet it is only the minority that are interested enough to try to get their money's worth by reading about them. A postal card bearing one's name and address, with a request that he be placed on the mailing list, will bring all new bulletins as soon as they are off the press. A request for literature pertaining to any given subject brings all at once by return mail. This means household as well as farm subjects. Is it not the fault of the farmers and their families that the station work does not do more good?

H. L. H.

A Relish—Two tablespoonfuls of grated horse-radish stirred in half a cupful of whipped cream, with a few drops of vinegar or lemon-juice, makes a most delicate and appetizing sauce for fish or meat. It is particularly good with hot roast beef.

MARY STARBUCK.

Gift for Invalid—It is not always wise to give flowers to an exceedingly nervous invalid, unless certain that they will be removed from the room before they begin to fade, as the sight reminds him unpleasantly of the end of all earthly matter.

A much better idea is to give him a potted plant, either a pretty fern or foliage plant, or one bearing pretty blossoms.

This he may watch from day to day as it puts forth new branches and buds. This may seem a fine line to draw, to the strong and healthy. But nothing is of too small significance that can help one struggling against pain and nervousness.

ALICE M. ASHTON.

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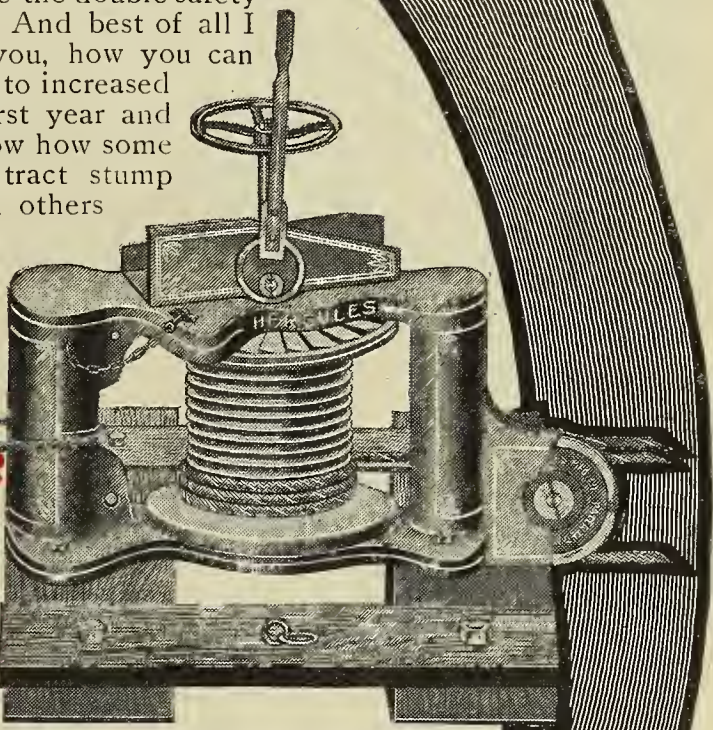
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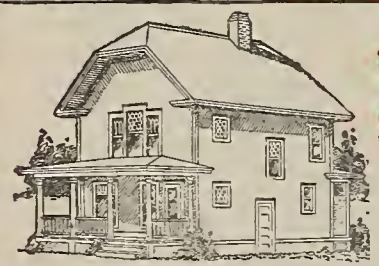
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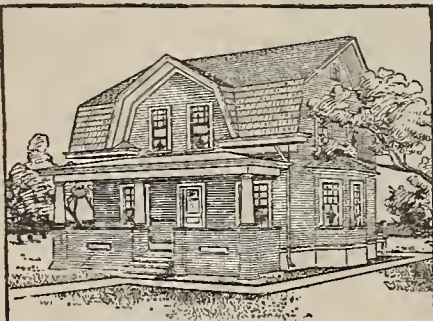
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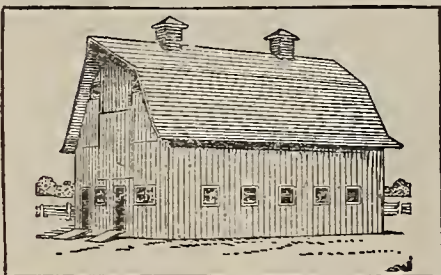
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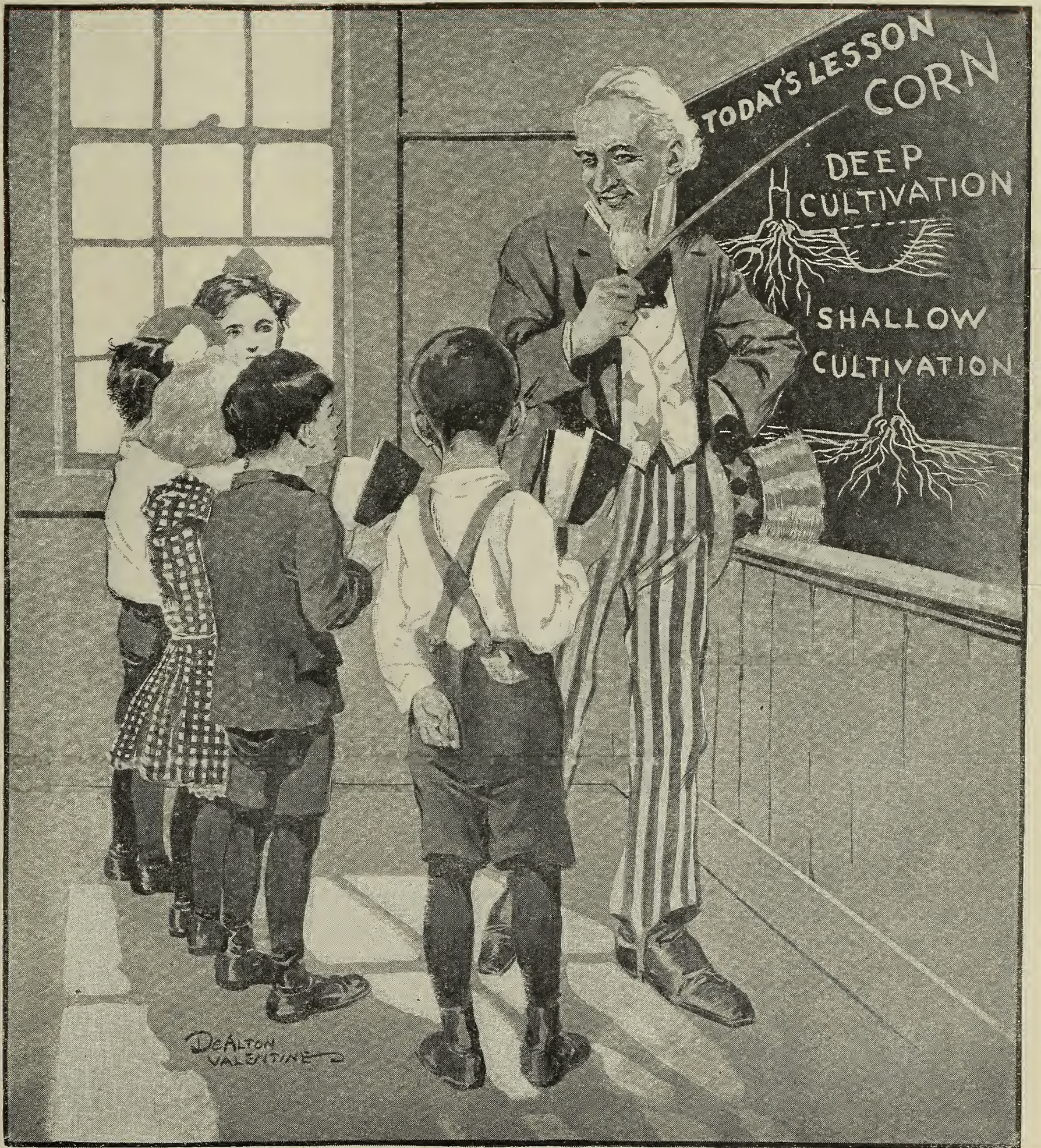
FARM AND FIRESIDE

THE NATIONAL FARM PAPER

EVERY OTHER SATURDAY

ESTABLISHED 1877

FEBRUARY 3, 1912



When the Page Bill Passes

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With the Editor

OUR circulation manager hands me the following letter from a friend in Indiana. It is so candid and so honest, and it deals with a matter of such great interest, that I take it as my text for this little preachment. It relates to that ever-present provocation to argument, the mail-order house.

I am no longer living on a farm, having moved to town here six years ago, and am in the grocery business, so my interests are somewhat different than they were. Nevertheless, my thoughts often revert to the farm, and I am in sympathy with all farm movements, as we cater mostly to farmers and their wives and in one of the best communities in the state.

But there is one thing I do not like about the FARM AND FIRESIDE, and that is the mail-order advertisements, such as from M. W. & Co. and S. R. & Co. of Chicago. Of course, you may say that, as I am in competition with them, I am prejudiced, but I am not. I am in favor of the parcels post and all other matters which pertain to the farmers' good, because I have seen both sides of the question, but I never bought one penny's worth from a mail-order house, and never intend to. I think and always have thought that where I was able to sell my produce and market my other farm products was the market I should encourage, and not a foreign one. Also, every bit of charitable work or support for any institution, besides having part of the taxes, is borne by the home merchant.

Therefore, I believe farmers should be educated to trade at home, everything considered equable, quality and price. Why, we had customers to quote us prices of \$1.25 on a 25lb bag of sugar which they could buy in Chicago, and it was costing at that time over \$7 per hundred, but they were to buy other goods I believe, and if that were the case, you know they would be compelled to sell them something inferior at a larger profit to play even. I do not call that just or fair competition. They put that \$1.25 in large type, and captured buyers with that, and then make it up on something else.

I could mention several instances which would stop me dealing with mail-order houses even if I were a farmer.

Our paper is for farmers. We really don't care to have very many others on our subscription list. We like to think that we make the paper for farmers only—that is, for those who are interested directly in some of our departments. A subscriber may live in town and operate a farm, or he may do a little farming on the side, or he may be educating himself for removal to the country—in any of these cases, he is a good subscriber. But why a person who is not in any of these senses a farmer should take FARM AND FIRESIDE I never could understand. So Mr. Walsh of the circulation department felt resigned to his loss when he got this grocer's letter.

IS THE grocer right concerning the duty of farmers to trade with the local merchants? I believe I should be the last man in the world to advise any man to do a wrong thing. Is it wrong to trade with the mail-order house?

Was it unfair competition for the mail-order house to sell sugar for five cents a pound, with an order of other goods? Well, isn't it just what grocers everywhere do? They slash the price and make sugar their "leader." The manager of a great wholesale grocery-house once told me that he would pay \$25,000 to any man who would show him how sugar can be handled at a profit. The only thing the grocer complains of is that the mail-order house sold it at less than cost, and must have skinned the customer on something else in the bill. Is this necessarily true? May not the mail-order house have bought sugar for less than the wholesale price when the offer complained of was made? The manager of a great Colorado beet-sugar factory told me last week that the beet people had sold their sugar this last year at about five cents a pound, and made nothing by the great rise in its price. Probably the mail-order house was on the market and bought at the low price, direct from the factories. They are better buyers than the local merchants, and even better than many of the jobbers from whom the local merchants buy.

The truth is that the local merchant, on the whole, suffers from his incompetency more than from his lack of capital. In October last, the National Retailers' Association met in Chicago, with three hundred delegates representing thirty-five states. Most of the time they hurled anathemas at the mail-order houses and laid schemes to beat parcels post by massing their influence on congressmen. These are the sort of "friends and neighbors" the farmers are asked to be "loyal" to! Mr. Lux of the Minnesota Association of Retail Grocers spoke on the benefits of "coöperation among retailers."

When I saw that, I at once pricked up my ears. "Here at last," said I, "is a gleam of reason. The retailers are going to coöperate in buying, and thus be able to meet the prices of the mail-order houses!" But on looking further, I found that Mr. Lux—and "Lux" means "light," too!—was just scheming for more influence on legislation—which means to beat the farmers out of parcels post.

Now look at the matter for a moment sensibly. If the farmer saves ten per cent. by buying his goods of a mail-order house—and if he can't do that, he won't bother—he sends away during the year, say \$300. Yes, he sends it away. If he bought as many goods at home, he would pay out \$330. He would be \$30 poorer, it is true, but he wouldn't send the money away. No, the retailer would send it away—about as much of it as the mail-order house would get—to the wholesalers. The money in the neighborhood would be about the same in either case, except that in the one case there would be thirty dollars or so in the local merchant's bank-account in the way of profits made, which in the other case would be in the farmer's bank-account.

If there are 500 farmers trading, each paying thirty dollars in profits to the retailer on account of "loyalty," they will pay at this rate \$15,000 a year, which they might save by "sending the money away." This, of course, gives the local merchants money to give to "charity;" but why not keep it in your own bank-account, and give a little more to charity yourselves?

TO BE sure the local dealer gives credit, while the mail-order house does not. But does he give credit for naught? Of course he doesn't—he gets prices that enable him to give credit, or he couldn't live. And because there will always be people who buy on credit, and others who want to see the goods they buy, there will always be local merchants. Even the short-sighted, inefficient local merchants of to-day who will coöperate only in fighting against farmers' rights and in boosting prices, will still live and make money. But what would happen to us if there were no mail-order houses? Look at the retail lumber trade, with its Knights of the Black Cat and its pooling and price-fixing, if you desire to see. Every agency exists for a nation-wide conspiracy to boost prices on all retailers' goods, and nothing prevents it save the mail-order houses. Let's remember that!

Handwritten signature: *Arthur S. [unclear]*

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Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published every other Saturday. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/2 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.



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BI-WEEKLY

Uncle Sam as a Rural Teacher

OUR cover this issue means something. It is a prophecy and a promise and a leap into the future. "When the Page Bill Passes," a new era in rural education will begin. Most of our readers know something of this bill—or will when they are informed that it is the new name for the old Davis-Dolliver Bill, which the late Senator Dolliver was pressing to the stage of becoming a real issue when he died. Senator Page of Vermont is its new champion.

Its provisions? Well, there is no room for them here. We have given them in the past. We shall set them forth more completely in the future. Suffice it to say, at this time, that the bill provides for the appropriation of money by the federal government for vocational teaching in the primary and secondary schools of the nation. This means rural schools as well as city schools. It means that the United States government will do for the rural schools what it has already done for the colleges of agriculture and the mechanic arts all over the nation. When Uncle Sam takes the pointer in hand and goes to the blackboard in the rural school, the ruralization of these schools will soon be completed.

The Admiral's Last Service

ADMIRAL ROBLEY D. EVANS, who has just passed away, will no doubt be remembered as a fierce and intrepid sea fighter of two wars. But in his last years he did the country a greater service, perhaps, than any act of his military career. In an able series of magazine articles he pointed out convincingly the fact that if tolls on freight passing through the Panama Canal are made so high as to pay dividends on the cost of it, traffic will not be able to use the great ditch, and the farmers of the two coasts, as well as all other producers and consumers, will be as much at the mercy of the transcontinental railways as ever. If we get justice in the matter of tolls, we shall owe a good deal of it to Robley D. Evans.

Penny-Postage Danger

THE path of parcels post is full of pitfalls. One is the rural parcels-post scheme—the adoption of which would be the end of hope. Another is the administration proposal for penny postage for letters. This is a poison for parcels post. Once lower the first-class mail rate to one cent, and we shall never see the day when there will not be a deficit. And with a huge deficit established as a permanent part of our postal policy the time could be set for the funeral of parcels post. Every enemy of parcels post is for penny postage; and every friend of penny postage, no matter what he may say, is an enemy of parcels post. Penny postage would save our great business institutions a great deal of money. It would save the publishers of this paper a great many thousands yearly. But it would be the death of parcels post. And it would benefit the ordinary man scarcely at all. The letter-postage expenses of the average farmer or workingman are the least of his troubles.

In the Third West Virginia District

REPRESENTATIVE LITTLEPAGE of the Third West Virginia District has introduced a bill reducing the first-class postage to one cent. He is quoted as saying, "the Post-Office Department is now a money-making institution, and lower rates should obtain." This is Mr. Littlepage's way of fighting parcels post without coming out against it. The farmers of his district are hereby notified that Mr. Littlepage is against parcels post, no matter what he may say to them. And whoever votes for this sinister measure may be classified with him.

Scarlet fever may be carried in milk—but by contamination only, and not through the development of the disease in the cows.

Tickling the Palate

AT A German experiment station goats were fed "goodies"—malt sprouts, sesame cake, meadow-hay and salt. Others were supplied with food just as good in "food units," but not so delicious to the palate—peanut-oil, gluten, feed lime (whatever that is), hay-ash and straw. The goats given the "goodies" gave the most milk—and that independently of the amount of food units eaten. Putting molasses in the bad-tasting diet increased the milk yield, with no increase in food units. Give the stock "goodies." This applies especially to cows, but it is worth thinking of in relation to horses, swine, sheep and hens. The delicious morsel in the daily ration pays far beyond the food value thereof. Tickling the palate is a very important matter.

Edisonian Wisdom

MR. THOMAS A. EDISON is in many respects our greatest American. He has a faculty of saying incisive things on almost any subject. He is as ready to tell about the soul as to discourse on electricity. We must not, however, take for truth what he says about the soul, because he knows so very much about electricity, any more than we should accept Maxin's recent book on poetry just because Maxin is a great inventor. Yet what Edison says about farming is worth reading. He thinks the independent isolated life of the German farmer, separated from the land he tills, altogether lacking in charm, and nothing like as good as ours in our detached farmhouses. He probably sees the poverty of the European peasant and undervalues the social life of the village. He says that while our land is better than theirs, on the whole they grow three times as good crops as we do, because we are wasteful and unscientific. We should study their intensive farming, he says.

He blames us for our crude cultivation of large areas. What he fails to see here is the fact that our land system tempts to the ownership of land rather than its highest use, and that much of our farming is only a side-line to land speculation. He further fails to see that in a new country the crude extensive cultivation of which he speaks is the only kind which is profitable, that land mining must precede good farming, and that if all American farmers should at once adopt European efficiency, they would ruin themselves and the European farmers, too. The purchasing power of the world under present conditions could not absorb the huge crops they would produce. The farmers who adopt better methods at the right time and in advance of the rest are the ones who will secure exceptional profits. That we shall have to come to something like European methods is certain. That this will pay those who are just the right distance ahead of their fellows is proven.

Be not the first by whom the new is tried,
Nor yet the last to cast the old aside.

Two Train-Loads of Turkeys

JUST before Thanksgiving this year, forty-eight car-loads of turkeys went through Springfield, Ohio, on one railway in one day. They were Kentucky turkeys and were on their way to the New York City market. This is evidence that, in spite of disease, the Blue-grass State is a good place for turkeys. It always was, in fact. Daniel Boone returned to North Carolina after his first trip to "Kaintuck," and among the attractions with which he lured the Kentons, Harrods and others to return with him was the true tale of turkeys weighing forty pounds each—or at least birds of that maximum weight. Not everyone has turkey skill. In some regions disease is so common as to make the industry very unsafe. But the skillful turkey-grower in a good location can ordinarily make good money on this prince of the poultry-yard. May his gobble never grow less!

A Lesson in Feeding

THE New Hampshire station finds that clover-hay for lambs produces meat at a cost of less than eight cents a pound, while the ordinary timothy mixture grown there makes the cost above twelve cents. The gain on aged ewes cost three times as much when fed timothy as when on the clover ration. Turnips in the ration gave marked benefit. Farmers are advised by the station to sell their timothy and mixed hay, and buy alfalfa and clover. This is a sample of cutting the corners in feeding. In such ways the admixture of good, active brains with the farm's rations spells prosperity.



Reasons for Staying on the Farm

BY WILLIAM J. BURTSCHER

It is the safest real-estate investment.
It is the best place to avoid doctor bills.
There is no place like it for bringing up a family.
It affords the greatest opportunity to cultivate the bump of optimism.
It is the foundation of all national prosperity.
It produces the eatables and wearables for the nation's people.
It offers the best chance to live in peace with God and man, than which nothing better can be desired.
It is easier to leave the farm than it is to get back to it after you are once in the city working as carpenter, bricklayer, carman, bookkeeper or clerk to meet your financial obligations.
It gives a man room to build his own home. In town another is likely to build the home for you—and in the end own it.

"Happenstances"

THE world ate the old-fashioned seedy oranges until a tree in Brazil happened to develop the habit of disposing of the seeds by the monstrosity known as the "navel." Then, all at once, almost, all other oranges were out of date. The world demanded seedless oranges as soon as it could get them of good quality.

In a California orchard this year a young tree bore coreless apples. We have had coreless apples before, but they were not good enough to drive out the old-styles. But some day a coreless apple will come which will have quality. In Tazewell County, Virginia, this year, a coreless pear was produced which is pronounced good by competent judges. When these fruits become common, they will be developed and perfected. One of these days we who think the Grimes Goldens, Winesaps, Jonathans, Baldwins, Bartletts, Seckels and the like the best of their sort may find ourselves obliged to work over into the coreless, stoneless, seedless wonders of the future. The puckerless persimmon and the spineless cactus are already on the market.

Evolution is an endless sequence of what our grandparents were wont humorously to call "happenstances." It is the summing up of the organism's luck.

One Thing for Congressmen to Do

By Charles Barnette Wolf

SOME folks who are just merely sensible and practical—who never indulge in the pleasures of sentiment or emotion or hysterics—think the government should go out of the seed business. These hard-headed folks say that it would be just as sensible for congressmen to send out sorghum molasses and Angora goats to their constituents under a government frank, as to transmit garden seeds and bulbs in that way. But before we abolish the one thing which many congressmen can do at all, well, let us consider the matter side, head and bottom. In the name of that growing caravan of industrious citizens who have remunerative contracts to grow seeds for the government and who look upon Washington City as an oasis of seeds in a seedless desert, let me illuminate a few dry facts with the searchlight of genius.

I spent several evenings trying to write an article on government seeds, but found it frivolous and puttering—the seeds are so small and hard to hold. Unless one is specially equipped for it, it is like picking beads out of an auger-hole with boxing-gloves. I spoiled a dozen number-eight pumpkin-seeds before finally corraling the following neat and compact article on one of them:

"O Lord give us good crops and knock the stuffing out of the brewers who buy them. Amen."

I have given considerable thought to national depression in the rural districts and find that almost invariably it goes hand in hand with the periodical attack on government seeds. Why not?

We glide along for years with fine crops and good business and plenty of money, and everybody buys something and has it charged. Suddenly our constitutional right to seeds is assailed, and nobody feels like doing anything till he sees what action Congress will take. Things go yellow and rocky and whang-basted and the man wants his money, and the village commercial club has to put up new hitch-racks and paint them red to fight off the crisis.

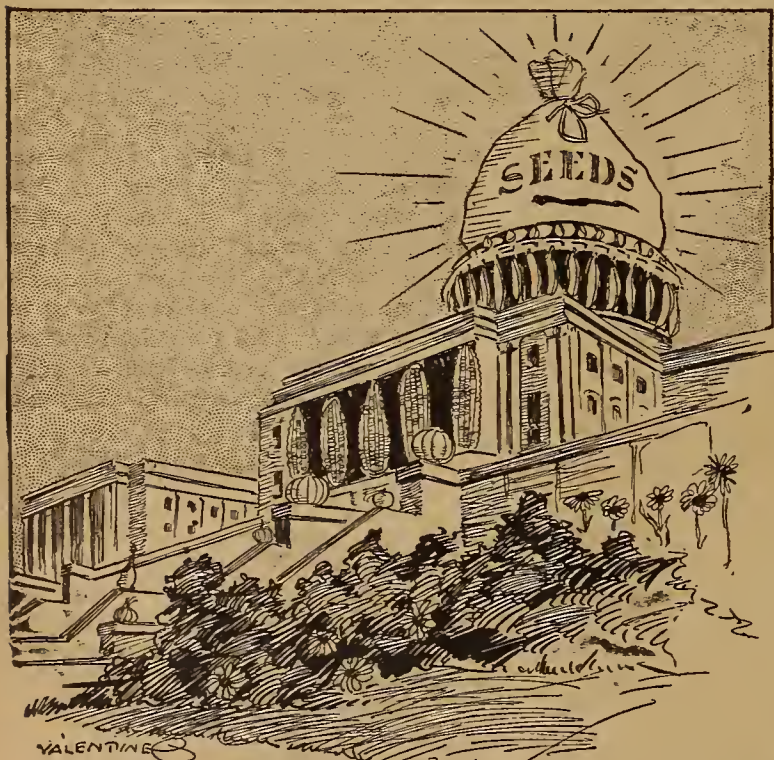
Surely We Need Seeds

The uproar about the government seed-coffers being looted by base hirelings of the corporate interests reaches the toiling masses in garbled press reports till they picture a once proud nation down to a rat-eaten gunny-sack and an old curry-comb. They go to bed at night not knowing whether they will have any seeds in the morning or not, and the next thing one knows they have buried their money in a tomato-can and despair gnaws at the human soul like a rat in a tin trap.

To-day there is a great cry against free seeds, and times are so hard that cats sharpen their claws on them.

The anti-seed crusaders present the following preamble: "The original design of disseminating new and novel ideas in vegetation and inducing genius to hatch eggplants and run a dairy on bullrushes and cowslips and milkweeds has been perverted till the national seed-bins are glutted with a wrangling mass of new and novel congressmen who don't know a frozen banana from a fried Wiener-wurst.

"The wild orgie of shoveling and franking clogs the legislative halls with mail-sacks, and the congressional tongue is so sore from licking envelope-flaps that nobody can raise a voice against the trusts. The dust is so thick in the capitol dome that visitors can't see the mural decorations, and the noise of bean-hulling compels the President to dictate his message in the cellar.



"Free seeds are the beacon-light of the nation . . . we know that the capitol still stands"

"Washington City distorts the congressman's vision till he thinks the rest of the world is rural districts with humanity comparing seeds over the garden fence and discussing his chances of reelection.

Seeds Must Be Sent

"He franks out seeds right and left. People unschooled in agriculture plant them in a tin pan in the chicken-yard or under a stove-lid in the wash-house in the hope of taking a prize at the county fair in the fall. Politicians who have no place to sow them but a waste-basket swear because they are not cloves as they toast them over the saloon gas-jet for breath-killers. Calla-lily bulbs and pomegranate-seed and watercress go to persons who want hard winter wheat and German socks and ear-muffs.

"Thousands of packets knock around post-offices till worn out, because of the disappointing fact that the donee is dead or gone down the line with a construction crew to pound rivets into a railroad bridge eighty miles from a garden and won't be back till winter sets in.

"Bill Jones haunts the post-office for seeds and lets his family suffer and his farm go to weeds, and all the while Teunis Van Ebscheuten has been carrying them around in his pocket till they have sprouted and are no good, all because the congressman's stenographer thinks the names look alike! What a national crime!



"As he drops in the extra watermelon-seed for the chairman of the doubtful precinct"

"Many seeds spend the best years of their life in a mail-order house, and when they get to the country, they lie in the ground and sulk for weeks and finally disappear—after it's too late to plant anything else.

"Finally—there is too much sameness. Everybody goes dragging home with a packet just alike and there isn't the joy in it there should be. Many even draw them from the post-office with a stifled groan."

There may be truth in these charges, but in the rural districts those of us who have contracts for growing government seeds see it differently. In our mind's eye we see our noble congressman squatted in the nation's warehouse counting out our seeds with loving care while his coat-skirts dally in the dust. He seems like one of us as he mashes the cut-worm on his sock and throws the corn-cob at a prowling rat. His silk hat—that we so love to see on rally day—is laid aside, and when he spits it in abstraction, we feel like shaking hands with him. There is smut upon his nose as he blows away the chaff and hunts the weevil from his lair and nibbles at the corn to test the sprout. The small black booger knocked from the early pea and the mummied cricket-leg flicked from the wheat—all have a charm for us. He is almost human as he drops in the extra watermelon-seed for the chairman of the doubtful precinct and sheds the tear of pity over friends who have been planted like the evanescent seed and are not liable to come up. It will be hard to efface this picture from the rural mind. These are the noble things which inhere in congressional seeds. This is real statesmanship!

And now let me paint the rural family as it dissects the tasteful budget sent by a loving congressman. The weathered farmer—grizzled gray perhaps and with glasses on his nose—has removed his boots and filled his pipe. The tablecloth of turkey red is spread beneath the coal-oil lamp. He lays the family paper carefully aside and proudly draws from his mackinaw the token of his congressman's



"If we could frank him something of equal value"

esteem. The children gather around and mother drops her knitting in her lap. He turns the budget over and around as he puffs his pipe—hefting it and exulting in possession before he breaks the seal—and reading with impressive air the distinguished autograph it bears. He removes the little packets reverentially and scans them thoughtfully and passes them around. The picture on the mantle—cut from last year's campaign lithograph—is brought and scrutinized admiringly, and the children prophesy their congressman will be president some day and father reads the paper seriously. From such a scene we see the reformer slink away in the dark—and we hope he will fall over the harrow and break his neck.

Not alone the farmer has learned to love the government seed. Men in every walk of life—and some clear off the walk—have sent me testimonials like these:

"I owned a truck-garden in New Jersey. My congressman bought a half interest. We now have four hundred men raising seeds for the government."

"Government seeds saved me from a drunkard's grave. I tried to pawn them for drink and got disgusted and became a temperance lecturer and now pay cash."

"I was in the penitentiary for highway robbery and became a trusty in the garden. I planted some government gourd-vines near the wall and am now a trust magnate."

"When the government went into the seed business, my railroad had but one vice-president. It now has twenty-seven. If the seed business were abolished, many of them would droop and die."

"I was charging across Cuba with Colonel Roosevelt and fell over a watermelon raised from government seeds just in time to escape a large iron-gray cannon-ball which was pursuing us."

"I am a physician. I mortgaged my home to buy an auto. The child of a rich neighbor swallowed a government bean. I cut out the child's appendix and now I am out of debt. We found the bean later."

"I was a laborer with a father-in-law rich but stingy. He borrowed my shotgun to hunt ducks. My children had filled the barrels with government seeds which got wet and swelled. He pulled both triggers at once and we are now on easy street."

"I was in the mail-order business and dealt extensively in second-hand seeds that had been returned to the nurseries by retail merchants. They wouldn't grow and folks quit ordering. My congressman unloaded them on the government for half and saved me from bankruptcy."

"My wife was a suffragette. I went out to the city dump to commit suicide and found a packet of government seeds. I became interested in planting them and forgot to kill myself. My wife got disgusted and ran away with another man. I am now at peace."

"I was a government lighthouse-keeper thirty years. I got so lonesome I felt like the tooth of time in the jaws of death. I got some government seeds and am now so busy trying to keep them from blowing off the rocks that I haven't time to go crazy."

Seeds are the Hope of the Nation

"I was a poor lawyer. A train was wrecked and government seeds buried in the debris came up the next spring. A client tripped over a squash-vine and broke his back, and we sued the company. The client died of old age before the case was settled and I got his property. I am now an attorney."

It will thus be seen that free seeds have succored the helpless and comforted the lonely and fed the hungry in a thousand different ways. Anything that will feed the hungry so many different ways, besides giving work to friends and relatives and mucilage factories and envelope trusts and young ladies in the private offices of congressmen, is a boon that should not be lightly tossed aside, especially at a period when the boon crop is light all over the country.

Free seeds are the beacon-light of the nation. They come to us like the night sentry's cry of assurance that all is well. As long as we get them regularly we know the capitol still stands and our faithful sentry is at his post battling for our rights. [CONCLUDED ON PAGE 19]

The Teacher of the New Country School

By Jessie Field

COUNTRY people have come into their own. The country teacher who is alive to the possibilities of country life to-day does not confine his efforts to the work within the four walls of the schoolhouse, nor even to the limits of the school ground, great as that ground has become in its possibilities for usefulness and influence.

The up-to-date, live country teacher is the leader in his district for improved agriculture. His life is a part of the community and he stands always for the best things for the farmer, the farm and the country home. There are many teachers who are doing this kind of work and assuming this leadership, and they are doing more that is definitely helpful for the upbuilding of agriculture than can be estimated. Through their schools they are reaching everyone in the vicinity. And the community that such a teacher serves appreciates the value of its country school and builds up in it an institution that is strong and useful, a source of pride to everyone.

I say there are many such teachers. I have known a great number in my own county. But I want to tell you now something of the work a young man is doing as teacher of a country school in Wisconsin. I have followed the record of his work with the keenest appreciation. I am sure you will like it, too.

He has just an ordinary country school. I have not seen it, and yet I am sure that it looks just like most of your district schools do. I have noticed in the pictures which are shown here that this school still has the double seats that were "good enough for the fathers and so good enough for the children," and I imagine I can see the carved places on the desks which I suppose were put there—some of them—by the men who serve on the board now.

An Extraordinary Teacher

Anyway, I see many signs that this is just an ordinary country school—or, rather, it was just an ordinary country school until an extraordinary teacher came to teach there. This teacher loved the country. He had been raised on the farm, and he had looked far enough into the great profession of farming to understand some of its problems and the importance of solving them in the right way. Since the boys and girls who came to school to him came from farm homes and would and should, for the most part, remain there, he thought he should interest them in some of the great problems they must meet there.

So he had the pupils make an exhibit at the country school of farm products. They brought potatoes, corn, pop-corn, pumpkins and cabbage. This was very interesting to them. School seemed to become more full of

life, since the things they worked with and knew about became a part of it. The big boys, in writing about real things, suddenly realized that the grammar they had detested in the past was really of use after all. The people began to see the value of the things their

children were learning. Then, since dairying was an industry which promised great things for the State of Wisconsin and for the people with whom he was working, this teacher secured a Babcock milk-tester for the school.

And, by the way, this is a piece of apparatus which to me seems quite as necessary for the equipment of a country school as a globe, a dictionary, or a heating and ventilating plant. I do not know whether his board purchased this for him, or whether the school earned it, or whether he paid for it himself. He secured it, anyway—that is the principal thing. What a real comfort it is to find a teacher who will go ahead and do things—find a way, or make one. Such a teacher secures results.

Then the eighth-grade class, consisting of four boys and four girls, weighed the milk at home. They brought samples of the milk to school and tested it. They reckoned the per cents. of butter-fat on the blackboard. And that eighth-grade class soon found that percentage was a much more real study and had more sense to it than when they had worried through that far-away and unreal maze called Stocks and Bonds in their arithmetic books. And, well, do you suppose there was a lesson to the homes when the record of Spot went on the blackboard as giving 3.2 per cent. butter-fat, while Daisy not only gave more pounds of milk, but showed 7.4 per cent. butter-fat? I do not know for sure about this, but one does not need to have a very keen insight to believe that Spot and all the other cows like her have ere this been sold to the butcher, and that the cows that remain are such as will bring greater profits which can be expended in many ways for better reading matter in the homes, for better schools, for better roads, for all that makes country life worth while and which helps to hold the boys and girls on the farm.

Everyone Became Interested

When early spring came around, there was the problem of testing seed-corn. By this time the children were interested and eager. The boys made the germination boxes; a farmer near-by furnished his seed-corn to be tested; I think the girls marked off the squares and helped put the corn in, and, as you see in the picture, the germination test was a success.

But this teacher did not find all his work with the boys and girls. Soon after he began his work with them he found the farmers were interested, too. So he organized the Green Bush Agricultural Society, of which he was elected president. This agricultural society met every two weeks all year and discussed subjects of interest to the farmers. Thus the work of this teacher became an influence for good, and the community prospered.



Testing milk right in the schoolroom



How one farmer's corn was tested

ROTATION of crops is not more regularly and successfully followed anywhere in the farm world, perhaps, than on the more than forty thousand acres of truck-gardens within the city limits of Chicago and other fields in Cook County, all of which send their products to one of the most extensive city markets under city jurisdiction in this or any other country. The more than thirteen hundred members of what is known as the Cook County Truck Gardeners' Association, divided into fifteen local unions, follow practically the same methods in farming the rich black garden-land, most of which is inside the city.

The practice of changing crops applies to practically all crops save that of onions. In many instances this crop is raised on the same land more than one year, but the tomatoes, cauliflower, peppers, cabbage, kohlrabi, carrots, beets and parsnips, as well as other vegetables, are planted in different ground each successive year.

Most of the farmers engaged in this great and growing industry are foreigners. Very few, comparatively, are American born. Most of them hail from Germany, and almost as many from Holland and different sections of the Netherlands. All of them have large families, and that fact is a mighty factor in running a truck-garden in or out of a great city.

Practically all of these gardeners work on their "hunkers" in both planting and weeding, and the position of the body is about the same in gathering many crops and snipping tops. They stoop to conquer.

They Stoop to Conquer

By J. L. Graff

No gang, sulky, or any kind of a riding-plow is used in any of the truck-gardens, the soil is turned by walking-plows, furrowing about sixteen inches wide and seldom more than five inches deep. Until quite recently, nearly the whole of the plowing has been done in the spring, but very little in advance of the planting of the crop. The farmers watch the soil as it is undergoing the drying process under warmer sun-rays. To a man they guard against the plowing of land too wet so that it does not bake. It is customary to see the head of a gardening family sinking a spade in many different sections of a field before a plow is seen. He is examining the earth to make sure that it is or is not in proper plowing condition.

How the Soil is Handled

During the last two years some of the most successful have adopted the plan of fall plowing and then disking it in the spring, so as not to be called on to do so much work in a very short time, but no ground is plowed until the planting may follow at once.

Scrupulous care is taken to harrow and then drag the land with an implement which seems to have been originated by the Cook County truck-farmers. Four

planks six to eight feet long are cleated together, one plank overlapping another about three inches. The farmer stands on this contrivance as he drives the team, and he drives it back and forth until the soil is like flour or sand.

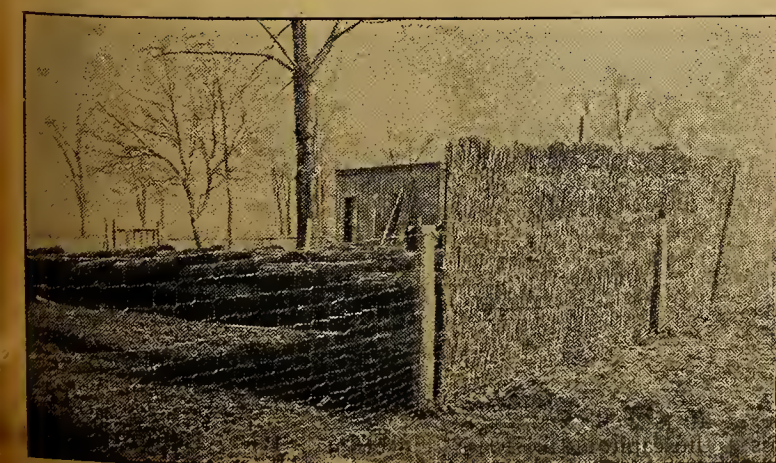
The truck-farmers, for most of their crops, are exceedingly careful about the matter of adding fertilizer, mostly barn manure, to the soil. A great proportion of it is forked into the furrow by a man wielding a pitch-fork and following close to the heels of the plowman. This is to guard against coarse fiber stuff in the manure clogging up the seeding and planting implements. The growth of the truck-garden business has forced the invention of a great variety of delicate seeding and planting tools,

the function of which is interfered with by coarse shavings and other parts of ordinary barn manure, and the gardeners find that it saves time in cultivation, every moment of which is needed in the rush, by making a better distribution of the manure which in the Cook County soil is easily reached by the roots of most of the vegetables.

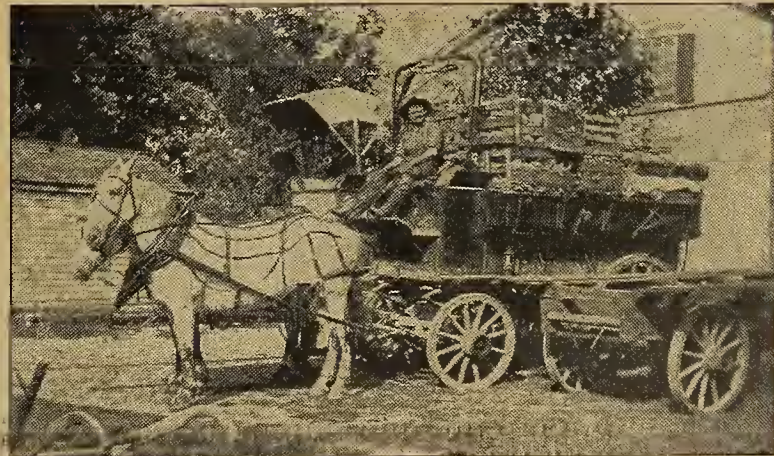
The Cook County gardener religiously sticks to the custom of producing his own plants. He is equipped with hothouses or hotbeds, the latter hedged about by thick, high, matted fences, made of swamp-rushes or cattails. Over the glass at night he places a mat made of the same material, rolling it back when the sun is shining, or on warm days. In these beds he plants seed for tomato, cauliflower, pepper, cabbage and kohlrabi plants; some of the gardeners transplant the plants as often as twice. Carrots, beets and parsnips are planted in the field from seed and require no transplanting. The seed is drilled into the soft earth by the use of machines invented for the purpose.

One or two attempts have been made by gardeners to do away with the transplanting process, at least one man undertook to grow cauliflower direct from the seed, but he found that the man who had nurtured the plant in hotbeds had distanced him in getting this savory vegetable to the market.

The destruction of weeds, their almost total elimination from a Cook County truck-patch, forms a mighty factor in the success of this type of soil-tiller. It seems to be a sort of second instinct [CONCLUDED ON PAGE 13]



Matted rushes and cat tails protect the hotbeds



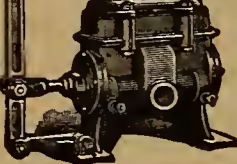
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The Market Outlook

Problems Relating to the Selling of Farm Products

What's in a Dozen?

AN EX-SOLDIER of the Civil War characteristically described the general feeling of winner or loser in these words: "When we were chasing the Yankees, I thought we would surely land in New York or Philadelphia; but when they were chasing us, I was sure it would end in the Gulf of Mexico." So it seems to the producer and consumer of poultry and eggs when the market quotations of these products in the several cities in our country are considered.

On a certain December day I was both amused and startled to note the many different prices for this staple article of food in various sections of our country. The question, "What's in a dozen of eggs?" came to me at once. Why does the value of this food vary so much more than meats, groceries, or dozens of other articles of food in different sections? Are not one dozen eggs in Chicago furnishing same food value as in New York? If they are, why not pay the same for it?

As an example, let me note the prices quoted in a few different places on the day above in question: New York City, 60 cents per dozen; Chicago, 38 cents per dozen; St. Louis, 36 cents per dozen. Then note this: Binghamton, New York, is about 200 miles from New York City, but the wholesale quotations gave eggs as 30 cents per dozen, and as 34 cents per dozen to retailers. I happen to know, though, that consumers were paying 50 cents to 55 cents per dozen for good fresh eggs that day, while the producer was paid only 30 cents.

Liberty, New York, is about 50 miles from Binghamton, New York, and about 130 miles from New York, but fresh eggs from the henry brought 57 cents to 60 cents that day to the producer. The above prices are all based upon highest New York quotations for select henry eggs, white and

been unable to buy will get the apple habit when the fruit comes within reach of poor people, and thus the demand be permanently increased.

The foreign demand is a thing which orchardists are looking to for a permanent outlet. In this connection an analysis of the Edinburgh, Scotland, market is instructive. It is quite similar to the other British markets, with some exceptions, the most important of which is that while the Newtown Pippin is the favorite at Liverpool, the York Imperial seems to have the call at Edinburgh.

On December 6th, last, prices on the Edinburgh market were as follows: For barreled fruit: Ben Davis, \$2.55 to \$3.16; Newtowns, \$3.16 to \$4.87; Baldwins, \$2.92 to \$4.38; Golden Russets, \$2.92 to \$3.65; Seek-no-Further, \$2.92 to \$3.40; Spitzenburgs, \$3.40 to \$3.89; York Imperials, \$3.89 to \$5.35; Greenings, \$3.40 to \$4.13; Northern Spies, \$3.16 to \$4.13, and Wagners, \$3.16 to \$4.13.

The western boxed apples sold for prices which indicate the good business judgment of our western orchardists with their insistence on quality, and their splendid shipping and boxing systems, as well as their superior climatic conditions.

California Newtowns, 4-tier, brought the same day \$2.06 to \$2.19 per box, and Oregon Newtowns of the same size, \$3.65 to \$3.89 per box. This is for the Oregon Newtowns, at the rate of \$10.95 to \$11.67 per barrel. Rome Beauties from the Wenatchee Valley sold for the same price as the California Newtowns. Jonathans from the Wenatchee brought the same as Rome Beauties, while Willow Twigs and Black Twigs sold at \$1.82 to \$1.94 per box, or at the rate of from \$5.46 to \$5.82 per barrel.

The sales for one day in Edinburgh are not to be given too much weight, but are very instructive all the same. The surprise of the showing, which we glean from the con-

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good size, fresh gathered. The writer was paid 57 cents for mixed eggs that day in Liberty and New York City.

Honestly, now, are not these facts startling? Isn't there considerable food for thought in them; and doesn't it indicate that, after all, our market quotations mean very little? Is the difference to be accounted for by local or general conditions? If by general conditions, why are the prices so radically different, even within less than 100 miles distance? If local conditions are the same, then of what practical benefit are our market quotations?

It looks to me very much as though all these quotations are somewhat of a fraud. I am inclined to believe that these quotations are simply what a few (or several) middlemen or dealers are willing to pay for this produce the day in question, without regard to the supply or demand of the product in general. O. F. SAMSON, New York.

Foreign Apple Prices

APPLE-GROWERS generally see that the next few years are likely to be crucial ones for their product. The enormous plantings in all the good apple regions seem to promise a vastly increased supply, if not an oversupply as the young trees come into bearing. To be sure, the great plantings which are being made as factors in land speculations are not likely to come into very general bearing. Many of them are on poor land, and in most such cases the price charged for the allotments sold to suckers in the cities are capitalized for more than the trees would now be worth if in full bearing, so that the promoters are in the position of having already taken their profits—or will be before their victims begin to awaken to the situation. Selfish men so situated are not likely to give orchards good care. And many of the orchards set out by actual home-makers are on badly chosen sites and under the management of unskilful, even if well-meaning, persons. Much abandonment and failure of orchards may be looked for. But even so, the supply seems sure to increase and lower prices in the future. Perhaps it will be just as well. A great many people who have

sular reports, is the evident demand for that old standby of the Virginias, Maryland and southern Pennsylvania, the York Imperial. It was the only barreled apple which brought anything like the prices of the poorest western boxed apples, and the only one running over \$5 a barrel.

The \$2 Advance Came

JANUARY will pass into history as one of our great winter months. Heavy snows and zero weather for weeks, all rough feed covered up and high prices for everything marketable, railway traffic blocked, causing erratic markets, and yet with it all, as might be expected, beef-cattle are selling high and gradually working higher. This must be, as there are more being sold to kill than there are going out to feed. Prices on mutton and pork are reasonable and really out of proportion, but in this big country of ours the higher a thing gets, the better it tastes. The avidity with which packers buy on short receipts clearly shows the stuff is wanted and the class of beef bought also shows the growing shortage. Anything with a little covering of flesh, which in ordinary years went to the feed-lot, now goes to the cooler. Two months ago I ventured to say the feeder would get a \$2 advance on his five-months'-fed steer. He is already getting that on a month's less feed and the end is not yet, for he will get a good deal more as spring and summer advances. Farmers all over this country who keep hogs cannot help but see that with the ravages cholera has caused, with the great number of immature hogs coming to market to save a feed-bill, there will be good prices later on and 1912 will have high prices for hog products. Outside of sickness there can be no risk where a man has good pasture in raising hogs profitably next summer. Now is the time to think it over.

All statistics from stock-yards as to the number of cattle going on feed or numbers of cattle handled are this year not reliable, as we have had the same cattle in many places several times, and sold back in the country three times since last spring.

W. S. A. SMITH, Iowa.

Farm and Fireside, February 3, 1912

Last Year and Next in Hogs

THIS year has been unique in hog-marketing. So many pigs were never marketed in a like period as since midsummer. Disease became prevalent in the corn belt and high corn prompted the grower to sacrifice his pigs, and better than five million immature hogs are estimated to have died or been sold since July. The total number for the year was exceeded only by droughty 1908, when many sold everything, breeding stock included.

This episode of 1908 was followed by scarcity during 1909 and 1910 and the record price of \$11.20 in March of the latter year. We are apt to consider that the average price for 1911 has been rather low because of the present prices. This is an error however, for the year's average \$6.70 has been beaten in the past ten years by the \$7.25 average for 1909 and the \$8.80 average for 1910 only. The next two highest yearly averages are \$6.60 for 1902 and \$6.20 for 1906. The record receipts of 1908 were but little in excess of the marketing of 1911, and at that time the year's average price fell to \$5.55. January was the high month of 1911, when the top reached \$8.30 and the average price was \$7.95, while May gave the lowest figures, with an average for the month of \$6 and a top of \$6.15. The prices for the closing weeks of the year closely approached those of May.

During the spring and early summer of 1911, large numbers of heavy hogs were marketed, and the average weight was 242 pounds. When the fall slaughter of pigs was on, this average dropped to 202 pounds. The indiscriminate marketing in 1908 had its reaction in 1909 and 1910. It seemed that the quicker a farmer got out of hogs, the better he was satisfied. Then when the attractive prices of the two years following came, this same producer had nothing to sell and was more than anxious to stock up again to get advantage of the high prices. It is to be hoped that this performance will not be repeated in the next two years. Those who refuse to follow the multitude in this matter are most likely to make the best profits.

Since the close of the holidays general market conditions have improved. The run on the eastern markets has subsided. The supply must now come from the western markets. Speculators have become more active and the small packers have been buying to the limit of their capacity. The outlet for fresh pork has broadened since the decrease in the demand for poultry at the close of the holiday season and since the coming of general cold weather. While the large packers continue to play the waiting game to keep prices down, all slaughterers are anxious to get as large a portion as possible of the supply at the present low figure before the certain decrease in marketing, which is sure to come, forces the price up. Quality and weight continue slowly to improve.

L. K. BROWN, South Dakota.

Good Sheep Prospects

DURING the earlier part of January it looked as though the favorable turn of the tide in the sheep-markets had come. Buffalo as early as December 26th had struck the \$7 mark, but was unable to maintain it. A fresh impetus, however, was given to shipping by this little spurt, and again a flood of sheep of all ages came in, the majority of which were of the poorest quality, and down for a few days went prices. Then an upward turn took place, and top lambs in Chicago brought \$6.50 per 100 pounds, at weights ranging between 75 and 85 pounds; butchers and outside dealers coming into the game and forcing the packers. Good to choice light yearlings went to \$5.80; heavy weights to \$5.40; wethers, \$4.60, and ewes, \$4.10; with a fair demand for feeding lambs at \$5.30. This put prices on a better basis than at any time since August, 1910, when prime fat lambs reached \$8.95; 1909, \$8; 1908, \$7.40; 1907, \$7.75; 1906, \$8; 1905, \$7.75. To which point they had risen gradually from a top of \$5.50 in 1901. Since that date sheep of all classes have improved.

Readers of FARM AND FIRESIDE interested in sheep all know the causes of the panic of 1911, but not being professional salesmen or publishers day by day of market reports we can only conclude that these daily ups and downs were caused, as usual, by the daily variations in the supply. Demand has of late practically been always the same.

All the conclusions we can arrive at from the comparative figures of eastern markets we have been considering are that the daily fluctuation in prices from day to day depends on supply, quality and suitable weights; for the demand remains the same, especially for the high-class meats.

With prime steers at \$8.50, good to choice at \$6.65 in Chicago, mutton which can be produced quicker and cheaper must come to its own as in 1907 to 1910. Therefore, when your early lambs are ready about the middle of April, send along the prime ones, neatly trimmed, with any ewes which have not proved good mothers. I don't think there will be much poor stuff about them to upset the market. The lambs not quite ripe will go for early yearlings, costing but little from the yards on.

J. NO. PICKERING ROSS, Illinois.

Why Irrigation is Not Entirely Simple

By Ivar Mattson

I HAVE been prompted to write this on account of the many failures I have seen on irrigation projects, solely because of the fact that buyers took the real-estate agent's word for the water-supply. Some districts have good prospects, while adjoining ones are total failures. I know of one on which, on excursion days, the land company stole water to which the land had no right and told the land-seekers that the water ran in that way all the time. Many a farmer has thus lost all he had by not making a personal investigation of the water-supply.

I shall speak in this article of "priorities." This word no irrigationist should ever forget—"priorities." In the government projects his rights are on a different basis, but private projects are usually extended over lands that have no rights to water until other lands are supplied. These lands to be served first are said to have "priorities." Millions of acres of otherwise good lands are doomed to aridity because there is not water enough for them and the lands which have "priorities"—that is, prior rights to the water-supply.

A Scientific Way to Farm

Irrigation has long been known as the most scientific way of farming, because control of the water and weather conditions are less variable than in humid regions. By abundant application of water, maximum crops of alfalfa can be grown; by withholding water at certain times, big yields of grain can be procured with a comparatively small amount of straw, flavor in fruits and vegetables can be controlled by applying an abundance of water when fruit is setting and withholding it when the stuff ripens. By the same method the per cent. of sugar in beets is brought up to the maximum. A heavy application of water on young small grain may be the ruination of the crop, or a too heavy watering of potatoes before they set will result in a rank growth of vines, but a poor crop of potatoes.

Best results with potatoes and small grains are to be had by having enough moisture in the soil to carry potatoes to the flowering-time and when small grain is shooting the heads. From this time on judicious watering will make big crops.

From this it will be seen that the most important condition for success under irrigation is the applying of water at the right time and in right quantities. But before the irrigator can do this he must have an ample supply of water just when he needs it, because cultivated crops need water at certain times, and then only.

It is necessary to have some crop to turn the water on when it is inadvisable to irrigate either cultivated crops or small grain. The best crop for this purpose is alfalfa, because it can take water any time that you are not making hay. In order to get the biggest and most profitable crops of small grain and cultivated stuff, it is necessary to have from one fourth to three fourths of the place in alfalfa, depending on the regularity and amount of water that can be counted on. The more regular the flow, the less alfalfa is needed, and the larger the amount and more irregular the flow, the more alfalfa it will be advisable to have.

Generally speaking, there are five methods of obtaining water: by pumping, by regular flow from streams, by flood water, by underflow and by reservoirs. However, there are innumerable combinations of two or more of these methods in different projects.

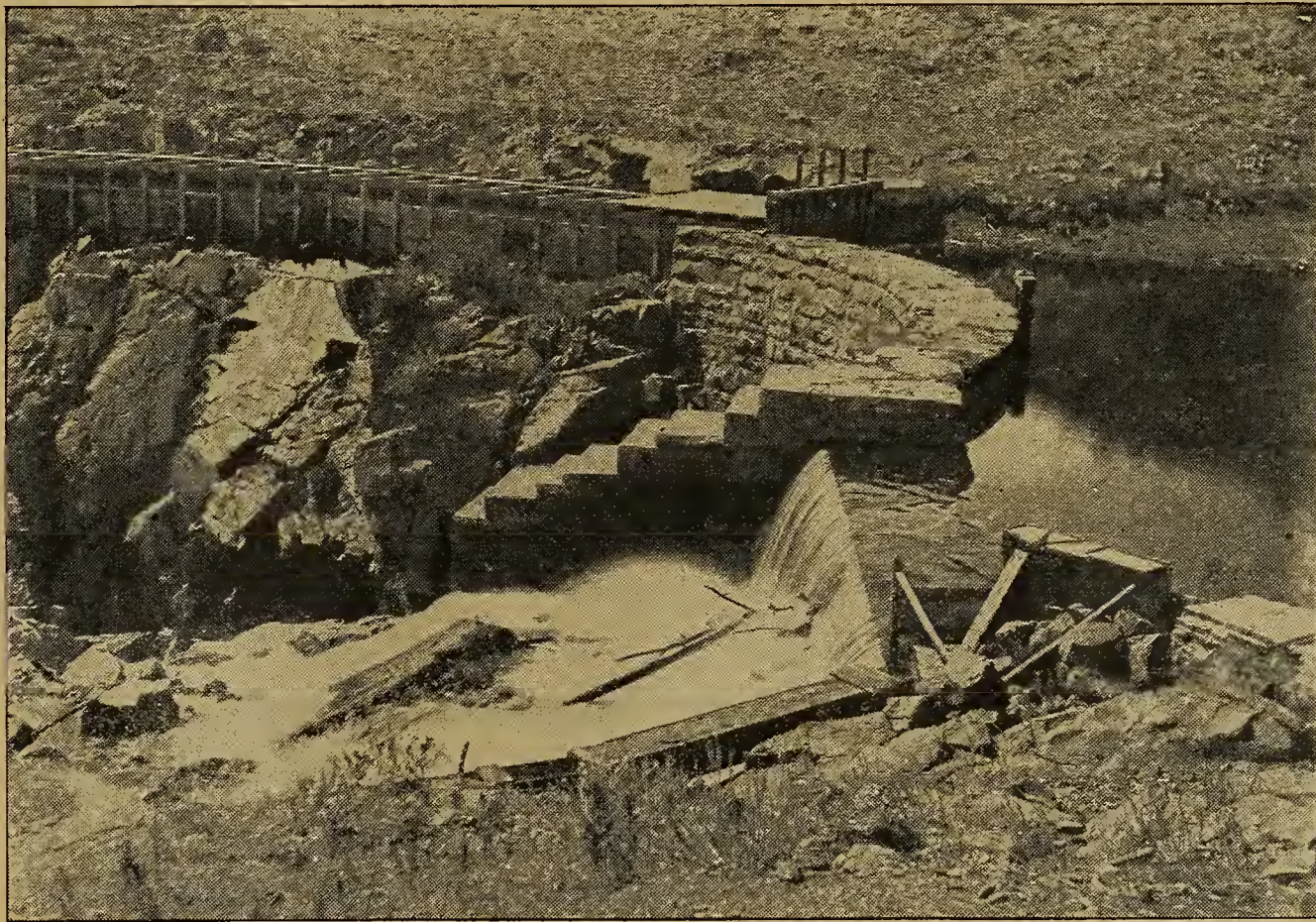
Of these methods pumping is the best where water can be had within fifteen or twenty feet without danger of exhaustion and where electric power can be had cheaply. The chief advantage of pumping is that water can be had any time it is wanted. The farmer is inde-



A northern Colorado reservoir

pendent. The next best are the underflow and reservoir systems; these give a steady, continuous flow all through the irrigating season and are therefore very dependable. The projects that have only normal flow have very early priorities and there are not very many of them. Each new project in a valley has to depend more and more on flood-waters.

Where flood-water alone is used, or where it forms the greater part of the supply, it gives a very irregular flow, and the farmer has to irrigate when the water comes whether he needs it or not, for fear the crops will suffer before the next flood comes. The smaller the water-shed, the more irregular the flood-water for the reason that the showers in the foothills are local.



Diversion works of a canal in southern Colorado

The steadier the flow, the less water is needed, and as the flow gets more and more irregular a larger amount is needed to insure crops. This is true of humid regions too, that a well-distributed rainfall is better than one that is not well distributed.

The amount of water needed varies in different places and soils and depends somewhat on crops grown, but a larger amount of water is needed under irrigation than in the humid regions, for two main reasons:

Plenty of Water is Needed

If you take out two acre feet (enough to cover an acre two feet deep) at the head-gate, a considerable part of this will seep away in the canal and ditches before it reaches the land, and when it reaches the land, a good deal has evaporated before the water has a chance to soak down, while in the humid regions, if you get twenty-four inches rainfall, you get it all on the land and there is no evaporation while the rain is falling.

Second, the evaporation in an irrigated district is always much higher than in the humid regions, consequently the plants let out more water through the leaves (transpiration) and a good mulch cannot entirely check evaporation from the soil itself. Even in some of the best irrigated districts (artesian and pumping excepted) there will be a shortage of water some years, not enough for a crop failure, but enough to cut the yield. However, they are a rare occurrence. The Arkansas valley of Colorado has been somewhat dry this past year, but there will be good crops everywhere, except in a few districts that have poor water rights, where the crops are a total failure.

In conclusion I would say, see first that the amount of water is sufficient for the climate, soil and crops and that the flow is quite regular during the irrigating season (May to September), preferably with the strongest flow in July and August, and that the amount will be regular from year to year. The more irregular the

run of water in a season and one season with another, the more water is necessary to insure plenty in off seasons. In the above I said "more water is needed in an irrigated district than in the humid regions." By this I mean that the plants actually use more water, but on an irrigated farm no water is allowed to run off, while in the humid countries fully fifty per cent. of the rainfall runs off. Above all, when looking at land in a new irrigated district, make a personal investigation of the water-supply. "The land is worthless; it is the water you buy."

Results Follow Knowledge

By Alvin J. Wilbur

SINCE I was reared in the woods of Michigan where the leaf-mold lay deep and wherever the sun was let in, grass sprang up and made firm sod, I was excited to wonder to see the grassless land of Alabama almost devoid of humus, and to still more wonder to see fair crops grow, though the cultivation was poor.

A boy's wonder led to investigation, and long after the knowledge came that perfection and conservation of humus depends to a large extent on the earthworm; that very sandy soil and long, hot, dry summers are deadly to the earthworm, and therefore much of the earth must be farmed with very little humus. When ordinary decay of organic matter takes place, the process is complete and the invaluable nitrogen escapes into the air and only the earthly base remains.

My first experience of farming without humus was on the high plains of Colorado at an elevation of forty-five hundred feet. The undisturbed dry soil was very hard and appeared to be clay. This soil, which had

no humus nor clay enough to make bricks, when plowed four inches deep and duly irrigated, yielded forty hundred-pound sacks of fine potatoes and from ten to fifteen sacks of good wheat per acre. The wheat was much surer following potatoes.

Oats did well, and corn yielded a little more than oats, but the stalks were small. Upon introducing alfalfa it proved a great success, yielding in three cuttings four or five tons per acre. We knew, as did the old Roman farmers, that the legumes, plowed under, greatly fertilized the soil, but our alfalfa-fields were too precious to plow in as fertilizer. The sod, plowed in June and potatoes dropped in the furrow, yielded one hundred sacks per acre, and even that fertilizer showed for some years in the soil and the crops.

Stable manure was applied to the garden and phenomenal vegetables resulted from this supply of organic matter. Crops doubled on plowed alfalfa-fields, but it was still a soil without much humus, and if the fertilizer was withheld, the soil soon dropped to its original condition, and the crops also fell back.

All this is in a cool, dry climate with hot, dry summers, and other conditions necessitating irrigation.

EDITOR'S NOTE—Only at first thought does it seem surprising that so many of the failures in farming are due to a lack of knowledge of the work being attempted. As suggested, successful farming requires a knowledge of all conditions of the country. This might be said of any farming section. Mr. Wilbur talks of humus, meaning decaying organic matter. His experience shows that without humus good returns may be secured, but it does not follow that humus is detrimental to soils.

No doubt many of the soils mentioned by the author would yield even more if humus in proper amounts were present. Benefits of manure show this.



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Running the Incubator

LAST season I operated three two-hundred-and-fifty-egg incubators so I can talk here of some things that may be of interest to the person who expects to run an incubator—the coming season. Of course, there are some things one can learn only by experience, with his particular kind of machine.

The first thing after setting up an incubator is to select a place for it. The incubator should be located in a room where the temperature does not vary much during the day or night. It is best that the room be not freezing cold, as it is hard to keep up the temperature in a freezing cold atmosphere. A north or northeast room is suitable for the incubator, as the sun does not affect the temperature much during the day. If a fire must be kept in the room, set the incubator as far as possible from the stove. One year I tried running an incubator in the house, but the temperature varied so much that I preferred to put my incubators in a cement cellar, even if it did necessitate running up and down the steps. The cellar has a south window letting in plenty of sunlight. I left the cellar door up most of the time that there might be sufficient ventilation. I found the cellar a very satisfactory place for the incubators, as it was not necessary for me to be looking after the thermometers every few hours.

After locating the machine, one should take a good spirit-level and see that it is perfectly level. After leveling my incubators I filled the tanks with water, as my

machines were of the hot-water variety. I use hot water because it does not take so long to heat up the machines after filling them, neither is there danger of the water expanding and running out when the lamps are lighted. I filled the tanks to one inch of the top. One cannot be too careful in looking after the water-supply. I have known some of my neighbors to come near losing a hatch by letting the incubator tank get dry and become unsoldered by the heat from lamp. I filled the tanks every other day until I found how great the evaporation. With my machines it was necessary to fill the tanks about twice each week.

I purchased the best kerosene on the market, for I do not believe poor oil is very satisfactory for an incubator. I filled the lamps and trimmed the wick square across, cutting off the points so that there would be no forked flames. I soon discovered that a moderately high blaze gives a better heat than a very high one, especially if it smokes or shoots out forked tongues.

Use the Best Kerosene

Right here I desire to emphasize this point. It is very necessary that the lamps be filled each morning or each evening. If lamps are not filled every day, one is liable to forget or neglect them, and that may mean a spoiled hatch if the oil becomes exhausted. When filling lamps, the char should be struck from the wicks, and the bowls wiped clean of oil or dirt. When the heat gets high, turn down the blaze, for it is more economical than running with a hot blaze and an elevated damper. I made it a point to wipe the soot out of lamp and tank flues every week. If it is allowed to accumulate, it may take fire some day and cause one endless trouble.

In starting the incubator, I found it was best to leave the damper down until the thermometer registered one hundred degrees. I placed the thermometer on a little pasteboard box in the egg-tray, and when the mercury stood at one hundred, I set the regulator—that is, I screwed up the adjusting nut until the damper started to raise.

Then the trays were taken from the machine and filled with eggs. I put in as many as the two trays would hold without standing any eggs on end. It is best to fill the

There are some poultrymen who never test out the infertile eggs, but I think it is best to do, as it gives more room for the fertile ones and prevents foul odors in the incubator. I have heard persons say that they tested out the eggs at the end of the third day, but I believe this is unwise. One is very liable to test out a number of fertile eggs. At the end of the tenth day is soon enough. I remember the first test I made on the tenth day. I tested out two fertile eggs, for I broke every one I tested out. The tested-out eggs, if infertile, may be kept and cooked for the baby chicks.

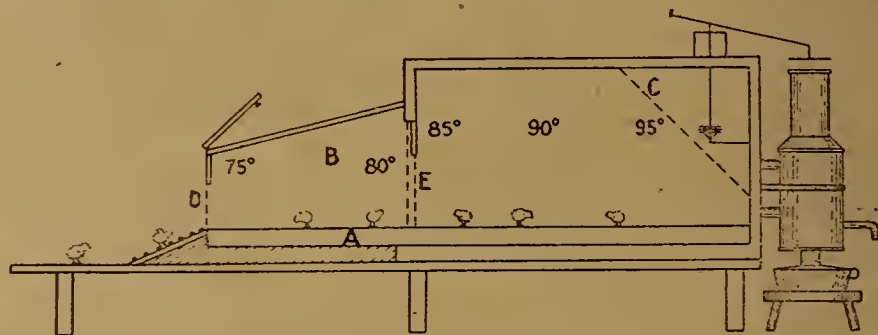
Moisture Important

The question of moisture is an important one. In rainy sections there will be no need of supplying moisture except to hot-air machines. I live in a dry climate and have found it beneficial to supply a little moisture after the tenth day if the air-cell in the egg is large as the thickness of my thumb. I sprinkle the eggs with warm water once or twice each week and sprinkle water on the floor of the cellar. On the evening of the eighteenth day I wring out light cloths in hot water and lay them over the eggs, leaving them until the next morning. This softens the shells of the eggs, supplies plenty of moisture and makes it easy for the chicks to pip the shells and kick out into their new world.

Before the hatch is to come off, it is a good plan to spread light cloths on the floor of the egg-chamber. This will prevent any filth from hatched eggs or chicks befouling the incubator. It will also furnish a soft place for chicks and prevent any leg weakness apt to be caused by a hard floor. I have found that it is best to keep the incubator closed while the hatch is coming off and to hold the temperature up to one hundred and four. I have tried opening the incubator and removing chicks as soon as they were dry, but opening incubator gives a draft of cold air, reduces temperature, dries the shells and delays the hatch. I never lost a chick from smothering during any hatch.

I believe it is a good plan to keep a soft cloth on top of the incubator, as it furnishes a good place to set the trays and helps to hold the heat.

W. D. NEALE.



The Brooding Device

A, extended egg-tray; B, brooder extension (cool room); C, screen protection for regulator; D, first wool curtain; E, two wool slit curtains

The Learning

MARCH 2d John Ashby took two hundred well-developed chicks from his incubator. John dreamed of a castle. March 20th his brooder was hovering eighteen of them—all he had saved. John's castle faded away. He picked up each specimen, and gave it a looking over. Some were undersized, some were oversized, some had "ruff necks," two were about normal, and all, except those two, had their feathers appearing very much like porcupine quills.

John handled the two "normals" fondly thoughtfully.

"I'm afraid you can't do it, John," said his mother, sadly.

"If others can do it, it can be done, and I will do it yet. It's rather discouraging, though, Mother, I'll admit."

"I agree with you there, John," and the mother's arm stole around her son's waist, as she smiled with well-meant humor.

The brooder was in a small brooding-house. John had done all he knew how to do, yet disaster was his, grim disaster; for day after day he would pick out the dead chicks—stones, each of them, from his castle—and burn them. At breakfast each morning he would make a guess at the mortality, and this with a grim humor.

Mother and son turned away, the brooder-house door swung to, and they started toward the house.

After dinner John went again to the brooder, gave it a looking over, fed the survivors and went out. As he crossed the green sward, a hen with a brood of sixteen little live balls hurried across his path. John's eyes instinctively followed that hen. Then, like a flash, came an idea. Ideas always come a-flashing, you know. You can think a year for one and not get it, then while you're digging bait or hoeing onions it will hit you with the suddenness of a bullet. John's idea was this: He would watch that hen all day and learn how she raises her chicks. He went to the brooder again and returned with the thermometer. The sun shone brightly, the temperature in the open was seventy. Catching the hen, John held her firmly, quieting her by gently caressing her; in the meantime holding the bulb of the thermometer against the hen's skin under



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her wings. A minute later he drew it out and read ninety-five. He made a note of it on paper, marking the temperature at that hour opposite the hen's temperature. Hour after hour John watched the hen and the chicks. He noted carefully what the little fellows ate, often catching them as they were busy scratching and eating at a favorable spot; he noted how long they would remain under the mother, if they sought warmth themselves or at the call of the hen. Several times he caught a chick and felt its crop. It was never full; but when evening came and the hen led her brood to the barn-yard, the crops began to fill with the seed gathered there, and when finally the hen led them back to her coop, each little crop was tight—full to bursting.

Old biddy now safe in her coop for the night, John again took the temperatures, the hen's and the evening's. There was a very perceptible fall after the sun had set, but the old hen was the same—ninety-five, and she had been brooding those chicks one week. Here was a discovery: the chicks always had the same heat, or degree of warmth, waiting them at all hours, no matter what the weather might be. Had the brooder been so exact and faithful? John's hopes were again rising. He began to see wherein his brooder failed.

That evening John told his mother of his day's experiment.

They were seated at the supper-table, John and his mother. His father was dead, and the two lived together on a small farm which John cultivated.

"I found," explained John, the mother all attention, "that the chicks eat very little at a time, and make a great fuss to get each seed or bit of grass—that's their exercise. The exercise keeps them warm and makes them vigorous and hungry. They drank only twice, so you see all that terrible thirst they manifest when raised in brooders is from their being overheated, or stuffed. When they wanted to be hovered, they got the same heat all the time, day and evening, and, of course, fresh air; but I believe the



Pure-bred fowls come nigh—so do their eggs. Careless management of eggs or chicks may result in much loss.

great secret of brooding chicks lies in even heat. What brooder that is not generally too hot or too cool?"

The mother instinct of his listener was quickly aroused.

"Even temperature, Mother, even temperature! I believe that is the great secret. And how shall I make sure of it? Why, use an incubator itself for brooding."

"An incubator?" queried mother, and she removed her glasses and thought earnestly. Then she said:

"My boy, I believe that is a good idea. I'm interested. Let us try it."

"It will necessitate some tinkering," explained John, "and as our machine is an expensive one, we would better buy a second-hand machine. You see, I mean to remove the door to the egg-chamber, lengthen the egg-tray and make a light, tight bottom to it. It will be filled with chopped straw and placed in the bottom of the machine. A piece of wire gauze must protect the thermostat from the chicks, and two felt curtains made into slits will take the place of the door. An extension of about eighteen inches must be built to the incubator with removable top, and a slitted felt curtain and gauze door be attached to this. Now, my idea is to heat the rear end of the egg-chamber to ninety-five all the time, the heat reducing toward the front end of the machine. The heat will be maintained by the lamp and regulator as during incubation, and as little chicks seek the proper warmth, naturally they will go where they want to be comfortable. The heat will never fail me, so long as the lamp is kept burning. The single-wall brooders are not safe in cold nights, the double-wall incubator, water-heated, is. I am going to try it."

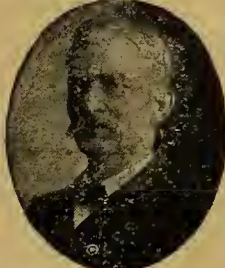
"That looks good, indeed," said the mother, earnestly. "Go over to Long's to-morrow and buy their machine; it has been for sale a month."

The next morning John went to Long's and bargained for their machine. The Longs couldn't see what John Ashby wanted with two incubators after having made his own record for losing brooder-chicks, but that was his business, and the machine was hauled over to its new owner's home. All the next day, and the next, John spent metamorphosing that machine.

April 15th ended the second hatch in John Ashby's incubator, and this time he had two hundred and eighteen. He left those chicks alone in that machine three days, gradually reducing the temperature to ninety-five. Then he took them out and put them in his new-made brooder, heated as was



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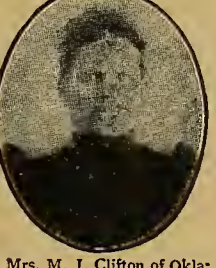


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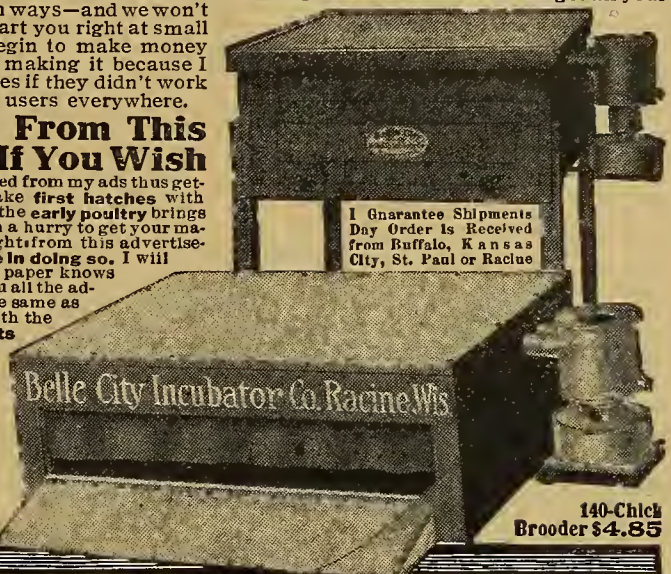
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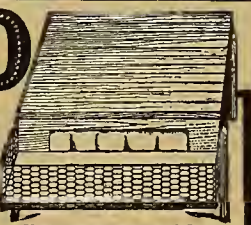
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is a scientifically prepared poultry tonic that makes hens lay by helping them convert more food into eggs by increased digestion. It makes the egg clusters more responsive. Dr. Hess Poultry Pan-a-ce-a, on this same digestive principle, makes plump, heavy poultry for market and tides young chicks over to healthy maturity. Cures Gapes, Cholera, Roup. The cost of this tonic is trifling—a penny's worth is ample for thirty fowls per day. Read this liberal, protective guarantee.

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The Reliable Brooder is built upon the same thorough principles, and is of the same excellence of construction, as the Reliable Incubator. Either Hot Air or Hot Water System of Heating—ment made of the very best high-grade material. Don't let anybody persuade you to buy an incubator or brooder until you have learned all about the Reliable line. Every machine backed by an iron-clad guarantee of money back if not perfect in every way. Write today for my new book—full of information worth dollars to poultry raisers. I will send you description and prices on incubators. Address—

J. W. MYERS, Pres., Reliable Incubator & Brooder Co.,

the machine, to ninety-five. The next day he taught them to run in and out, and to pick up fine grains of seed and grit. The fifth day he gave them water. None had died. When the chicks had learned to run about the two compartments, seeking the heat they desired, he let them run out into the runway, which had sods of grass in it. The little fellows soon discovered that bits of food and seeds could be found if they would hunt and scratch, so all day long they ran and scratched to their hearts' content, waxing stronger day by day. John's heart beat light. A week passed and not one had died! Mother came daily, then several times a day, to see and to share in the happy results. The second week showed the chicks developing according to their real worth. Some were not organically so well formed as others; these fell behind, and two died. Those that lived John separated, making a small compartment at one side of the tray, the full length, and the little fellows received extra care. In time they began to catch up with their brothers and sisters.

Days passed, but the machine's heat was never varied. The feeding was increased, but food was never fed in bulk. Scratch, hunt and run was the discipline, and with the heat under control, the chicks grew almost as well as if they were with a hen.

John had really solved the brooding problem; even heat, plenty of it, exercise always, cleanliness and pure air. Daily the tray was removed, cleaned and sunned, the curtains raised and the machine given a good airing and disinfecting with a small sprayer.

When fall came around, John Ashby's flock of four hundred fowls was its own advertisement. He set to work, enlarged his brooding-house, equipped it with three more such brooders, bought two more incubators, and from that time on his poultry farm was a pronounced success. **HOWARD L. TERRY.**

To Help Out

A pot of potato-rinds, turnip-peelings and cut pumpkin, boiled, with a big hunk of suet on top, and slightly salted, will help out on the feed question, provide a variety, and can be cooked while baking or cooking the dinner.

CLIFFORD E. DAVIS.

A sane housekeeper is a sanitary housekeeper.

A better house is not necessary to make a better home.

Dust carries disease. Let us work for a dustless road.

A mortgage is no respecter of lands, but thrives as well on a worn-out soil as on the most fertile to be found.

A Year of Egg Boosting

AN EGG-LAYING test that proves both interesting and educational to the owner of the birds—the writer of this account—was tried out last year with the pen of pullets here pictured. These birds were variously bred as follows: Hen No. 1 and hen No. 2 are cross-bred from Brown Leghorn and Buff Rock stock. Hen No. 3 is Buff Rock. Hen No. 4 is a cross from Brown Leghorn cock and Rhode Island Red hen. The weight of these hens in adult laying form is as follows: Hen No. 1, 5 pounds; hen No. 2, 5½ pounds; hen No. 3, 6 pounds; hen No. 4, 4½ pounds. These birds were April hatched, 1910. Their record of a year's production by months follows:

Hen No. 1 began laying November 3, 1910.	
November (remainder of month)...	20 eggs
December	7 "
January	25 "
February	16 "
March	25 "
April	15 "
May	15 "
June	18 "
July	13 "
August	15 "
September	18 "
October	14 "
November (first two days of month) ..	2 "

Total203 eggs

Hen No. 2 began laying November 11, 1910.	
November (remainder of month)...	10 eggs
December	17 "
January	16 "
February	21 "
March	21 "
April	19 "
May	17 "
June	14 "
July	15 "
August	15 "
September	13 "
October	15 "
November (first ten days of month) ..	7 "

Total200 eggs

Hen No. 3 began laying December 8, 1910.	
December (remainder of month)...	18 eggs
January	17 "
February	24 "
March	16 "
April	21 "
May	15 "
June	11 "
July	15 "
August	14 "
September	1 "

Total152 eggs

Hen No. 4 began laying October 26, 1910.	
October (remainder of month)....	4 eggs
November	11 "
December sick with roup.	
January	10 "
February	14 "
March	22 "
April	22 "
May	14 "
June	17 "
July	11 "
August	14 "
September	4 "

Hen No. 4 was mistakenly killed 45 days before her year of production was completed. The eggs found in her ovary in all stages of development indicated that she would have laid two or three dozen more eggs by the end of her year period.

It is worth noting here that hen No. 4 had a serious attack of roup November 12th to January 20th, where the long break in her production record appears. It was only by heroic treatment that she pulled through, and was a physical wreck for several weeks. Hen No. 2 contracted the disease a few days after hen No. 4, but by prompt isolation in a comfortable hen hospital and dosing with quinine and ginger pills, disinfecting nostrils, mouth and eyes with hydrogen-peroxide solution, coupled with a stimulating diet, she completely recovered, her egg production being stopped for only three days. Hen No. 1 completed her year test November 2d, but continued laying throughout the month, producing 23 eggs in November, 1911.

The evident cause of the roup was the hens frequenting an open, drafty stable when the first snow storm kept them indoors.

These pullets up to about the time of commencing to lay had free range, then were housed in a run and scratching-shed that were far from warm, ice freezing an inch or two in thickness frequently during the day.

Their roosting-place was perfectly protected from draft and closed in with a bur-lap curtain the coldest nights in winter.

The dry-grain ration—cracked corn, wheat and oats, equal parts by weight—was fed in litter and kept them working most of the day. A feed of moist mash composed of vegetable-peelings, cooked and mixed with wheat-bran and wheat-middlings, was fed once a day, and a fairly generous supply of green-bone soup was fed several times a week. Of course, oyster-shells, grit and fresh water were

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supplied ad libitum. For green food and bulk sprouted oats were fed frequently.

The eggs of hen No. 1 weighed 2½ ounces; those of hen No. 2, 2½ ounces; each accurately weighed on an apothecary's scale. Reckoned on this basis, hen No. 1 laid approximately 30 pounds of eggs, and hen No. 2, 31 pounds, within the year, or over five times their own weight in eggs.

The eggs of these hens were used for home consumption, but would have been taken readily by private customers at an average of 30 cents per dozen for the year, or a gross income of \$5 each for the two best producers. Reckoned at actual food value, 30 cents a dozen is a low price for eggs of such size when strictly fresh. At 20 cents a pound for the eggs laid by hen No. 1 and hen No. 2, each would have returned a gross income of \$6. Only a medium quantity of beef, veal, pork or lamb steak can be purchased for 20 cents per pound. The fresh eggs at the same rate (20 cents) per pound will be fully equal in



1 4 3 2
A hustling quartet

food value to the steaks procurable at that price when waste in bone and other inedible portions are considered.

The cost of feeding this pen of hens, exclusive of table-scraps and vegetable waste from a family, was 81 cents per hen; all grain, meat and oyster-shells being purchased at retail rates.

This pen of hens were constantly kept by themselves, and their eggs being so unlike in appearance, it was easy to keep an absolutely authentic account of the egg production, which was done. While they made no phenomenal record, their production is creditable when it is considered that two individuals out of a total of four under test reached the 200-egg mark during 365 days. Recent agricultural statistics issued by Iowa State officials give the average egg production of the hens of the state to be only 64 per hen.

The writer personally selected the four birds tested from a flock of a dozen pullets. The first two chosen proving to be the 200-egg hens here recorded. The feeding and care were also given his constant attention.
B. F. W. T.

A cabbage a day makes the feathered flock lay.

The farmer's wife is too apt to do all her loafing on baking-days.

Neighborliness means something more than gossiping with one's neighbor over the back fence. It means a little practical Christianity when trouble comes—a lift here and there to make things easier.

Remember that the early broods must at all times have a dry place and room to exercise when the weather will not permit them to go outdoors. Little chicks will not thrive if penned in a small enclosure.

A young man came to me once for advice about going into the chicken business, claiming it was light and easy work. I said, "If you are willing to be busy every hour and be right there at all times, and drive the business, there's money in it; but if you are looking for an easy job, stay out of it."

Practical Egg-Record Card

19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Jan.																																
Feb.																																
Mch.																																
Apr.																																
May																																
June																																
July																																
Aug.																																
Sept.																																
Oct.																																
Nov.																																
Dec.																																

Pen No. _____	No of females _____
Mated _____	Strain of females _____
Breed _____	Band Nos. of females _____
Strain of male _____	
Band No of male _____	

WHILE visiting an extensive poultry plant I found the record blank illustrated above in use. It is printed on fairly stiff cardboard eleven by nine inches, and one is fastened on a smooth board on the door or side of each pen. When the eggs are collected, the number is written in its proper place in the date square with a pencil tied to the top of the board. In this manner of keeping a record it will be seen that a definite record of the performance of each pen is kept, not only from day to day and month to month, but from year to year.

White Runner Ducks

THE readers of this paper may not know that the White Runners are nothing more or less than sports from the fawn and white variety, but they have certainly outclassed the parent stock in several different particulars; they breed truer to color, lay a pure white egg, they have never produced a tinted egg, nor thrown an off-colored specimen. Their color is pure white, not a creamy white like the Pekin.

Their carriage is upright, racy and beautiful. The beak is a rich orange, sometimes showing spots of green. The legs are also a rich orange. The head is like that of the original Indian Runner duck, being small, flat on top and with almost a straight line from the crown of head to end of bill. The neck is long and thin and adds to the racy appearance of the bird. The breast is full and shows more meat than the original Indian Runner. The body is long, narrow, racy looking and carried almost erect. The legs are of medium length and set well apart. Now you can picture to yourself the beauty of this new breed.

As egg-producers they are simply wonders. They begin laying at the age of five or six months and lay almost continually the year around. A short time during the molting season they will stop laying, but lay both winter and summer. Eight of these eggs are equal to a dozen of hen eggs. They are fine flavor, make excellent cakes, far better than the hen eggs for baking purposes and bring more on the market.

As a table fowl they are excellent, their plumage and well-meated carcasses are very desirable and are more like the canvasback. They excel the original duck in having more breast meat, a very desirable feature in a duck. The flesh is fine-grained, tender and juicy and of excellent flavor.

They are the most interesting fowl we have ever handled. From the time they are hatched until grown they never cease to be a great pleasure to me, and people coming to our place and seeing a flock of several



They are always alert and active

hundred together almost go wild over them. I never get tired of watching them. They are very easily reared, the eggs being very fertile, and there is no trouble in hatching them. After they are hatched, you would be surprised at the vitality of the little ducks. They mature very early, being ready for market at ten weeks of age. They require no swimming-pool, just plenty of good, fresh water to drink. They can be reared in very small quarters, and a cheaper grade of feed can be used than for chickens.

A good mash for these ducks consists of equal parts of corn-meal, wheat-bran, twenty per cent. wheat-middlings, five per cent. beef-scraps and five per cent. sand. They do well on this, and with plenty of good water to drink is all that is necessary.

Ducks have no contagious diseases, and are not subject to lice. They do not require much attention. We keep ours penned until about nine o'clock in the morning until they are through laying, then let them out until evening, or until feeding-time, when they are again put in a yard. They are very intelligent, can be handled and driven easily. They require very modest houses; really require none until very cold weather, then just enough for shelter.

Anyone who likes this kind of work and wants outdoor exercise will certainly find the White Runners the most interesting as well as the most profitable fowl they can handle. We are on a large farm and have handled several different varieties. We have tried Pekins, and they cannot compare with the White Runners.
MRS. U. R. FISHEL.

Early Chickens

WE FIND that early chickens on the farm pay from many standpoints. The work of hatching and caring for the tiny chicks comes before the busy farming season.

When the busy season arrives, the chicks are large enough to get along with little care. We lose a larger percentage of our late chickens than we do of our earlier ones, for their tender age comes during a rush season and they are neglected.

The early broilers always command the best market. And the early pullets, with

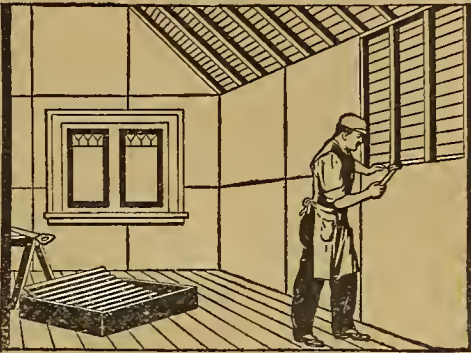


Typical White Runners

ordinary care, will lay through the winter months when eggs command the highest price of the year.

Young chicks must be kept dry and warm. The most satisfactory arrangement we have found is a small brooder-house, inexpensively built. It faces the south with low windows the whole length. The floor is of earth, over which we scatter fresh litter every day. The house is heated with a small wood-stove in which we burn hard chunks.
MRS. GEORGIA SELTER.

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Makes rat-proof, bug-proof, moisture-proof bins, storehouses, barns, stables, dairy buildings.

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Garden and Orchard**Some Diseases of the Peach****Peach-Yellows**

AMONG all plant-diseases none have been more difficult to explain than a class attacking the peach typified by the so-called "peach-yellows." Peach-yellows has been known for over a hundred years and was first noticed in the vicinity of Philadelphia. Since its discovery it has spread steadily, till now it infects nearly every peach section in the country. Its virulence seems to have been especially great at certain periods, doing less damage between times.

The cause of yellows is not known. Whether it is a bacteria too small for the most powerful microscope to detect, an enzyme, or "living fluid," or something equally obscure is not known. But we do know that it is remarkably contagious, capable of doing great harm unless intelligent preventive measures are taken. And it is also known that yellows trees do not infect the soil. Trees may be planted where the diseased tree was removed with perfect safety. If a diseased tree is pulled out and dragged through the orchard, peach-trees along the way are very liable to contract the disease. Probably one of the important means of transporting the disease is by nursery stock. There is a good deal of evidence to show that it may be transmitted in the bud, as well as the pit.

Symptoms and Preventive Measures

If the peach-tree ripens its fruit from one to six weeks earlier than near-by trees of the same variety, one may immediately be suspicious of yellows. On further examination of the fruit, if red blotches on the skin are found and in the flesh red spots and streaks extend from skin to pit, the tree is surely infected. Yellows may also be detected by a characteristic foliage. Small yellowish green leaves, thickly spread along a stem of a much-branched shoot grow from the main branches and trunk. Often, too, there is a development of the winter buds out of their normal season. The first signs may appear only on a small branch, but once infected the tree is doomed; no amount of pruning will save it. In later stages, the tree appears stunted and has small red or yellow leaves.

By care and attention one can soon "spot" a yellow tree. The only method of control is to pull up the tree and burn it on the spot. Doing this at an early stage naturally lessens the source of spread. It is a great satisfaction to know that even though the country about is badly infected, it is possible for the watchful fruit-grower to control the disease by this method. It is said by authorities that he can reduce his annual loss in this way, to less than one per cent.

A. J. ROGERS, Jr.

EDITOR'S NOTE—Every now and then Mr. Rogers will tell about diseases of fruit and the best methods of avoiding that form of loss on the farm. He can be trusted in what he says, for he has had experience with these diseases. If there are still any questions in the mind of any member of FARM AND FIRESIDE's family after you have read these articles, write us. And if your fruit is affected in any way, it might be well to tell those things to your state experiment station.

This is a good time to get the tools and machinery all in readiness for hay-harvesting. Yes; but you'd better be ready in advance of the season than wait till you'll have to hustle "like sixty" to get everything in shape for business.

Growing Swamp-Land Lilies

THE possession of swamp-land is often regarded as a disaster, and men set about "redeeming" it, in order to plant a profitable crop. Not so Mr. W. B. Shaw, once of the government service, at Washington, D. C. Finding that some five or six acres of his farm, just out of the city, were merely marsh, he put his wits to work to devise some means by which this boggy land should remove him from the close air of office to the light and sunshine of the country. A bare living he had where he was; he was looking for something worth while, and he found it.

"It is in just this rich and fertile soil that Nature grows her water-lilies," he reasoned. "Lilies are beautiful and attractive. Everybody admires them, hence they would sell. Many unusual varieties exist in other lands, which could well be grown in this country. I will raise the most perfect water-lilies that man has seen and great shall be my reward." Since Mr. Shaw has done this, it is fair to infer that he planned it.

By filling in between, Mr. Shaw constructed eight ponds, with each one of which he connected drain-pipes, protecting the openings with board pens. He then cleaned out the undergrowth, and set out his crop. In one pond he placed roots of the hardy lilies, in another, bulbs of the tender varieties. Along the banks he planted willow-trees, partly for ornament, but chiefly to shield the plants from the over-hot sun of summer. No fertilizing is required, no particular cultivation or attention. Once set out, the lilies grow, are picked and sold; no money-making crop makes fewer demands.

The blooming season lasts from the middle of May to the first of October, and the output is something like twelve hundred lilies a day. The business is wholesale, and the lilies bring from two dollars and fifty cents to three dollars a hundred.

Besides the eight ponds used for lilies, three were devoted exclusively to fish moss, used in aquariums for keeping water pure. This is gathered, packed and sold every day in the year. In winter the ice is broken, and the moss gathered with rakes. It is taken to the moss-house, where two girls are constantly employed breaking it into suitable lengths and tying it in bunches by means of short metal clasps. The house is supplied with a pump and tubs, and the bunches of moss are washed in two waters and packed in baskets by hundreds with papers between layers. The baskets contain from fifty to five hundred bunches, and the wholesale price is two dollars to three dollars a hundred. Each of the thirteen ponds is supplied with a boat from which both moss and lilies are gathered.

The sale of roots and bulbs is another large source of income. In the spring the ponds are drained and the beds put in shape, for the lilies are always planted in rows, like corn or beans. Roots or bulbs for sale are taken up and placed in small ponds some twenty feet square, of which there are many on the place. Each variety has a pond of its own. The hardy roots sell for from twenty cents to two dollars apiece, and are day bloomers, while the bulbs bloom at night, are tender and must be removed to the greenhouses during the winter. They bring from sixty cents to two dollars and a half apiece.

This large business, netting at a conservative estimate one thousand dollars an acre, has grown by degrees from a modest beginning. Besides the manager and the two girls already mentioned, three other men are constantly employed. Mr. Shaw gives his entire time to the supervision of the ponds and to the sales department, and during the busy season extra help is required.

The flowers are beautiful and of varying colors, and range from the smallest lily in the world to the largest, and though they have been gathered from many lands, some of the choicest varieties have been propagated by the owner himself. Flowers have been shipped to all parts of the United States, even to the Pacific Coast, though this is not common. Moss, roots and bulbs have gone to Mexico, China and many parts of Europe, yet, so far as the writer can learn, no one else has taken up this attractive and lucrative business.

E. YOUNG WEAD.

Forcing Royal Asparagus

FOR the horticulturist touring Europe the vegetable-garden of Louis XIV., still in existence at Versailles, is of more interest than the cathedral of Notre Dame at Paris. It is now used as a horticultural school, but the general plan of the garden has changed very little since its first director and founder, La Quintinye, died in 1688, after about twenty years of catering to the taste of his royal master. This does not mean that French methods of horticulture have not changed in the last three hundred years. Far from that. In intensive culture France is constantly gaining new ideas that any nation would do well to imitate. And the mother germ of many of these may be seen in a visit to this garden or by reading the book written by La Quintinye, descriptive of his work. It is called "Instructions pour les Jardins fruitiers et potagers," and has been translated into many languages, but is now comparatively rare.

One of his most ardent disciples was...

duce fruits and vegetables out of season for the king's table, and a good example of his ingenuity may be seen by his method of forcing asparagus, which is described in his book. After giving warning, which still holds good, that in wet soil asparagus should be cultivated in hills rather than trenches, he gives the following method of forcing the vegetable by means of manure alone, a method which is equally practicable even now in America whenever manure can be obtained cheap.

You can begin at the end of November, says he, to start forcing asparagus-plants, which must be three or four years old, at least. The earth should first be dug away from the sides of the plants in trenches a foot and a half wide and two feet deep, taking care to leave six or seven inches of soil about each plant. These trenches should be filled with fresh coarse manure well pressed and stamped down until it is a foot higher than the tops of the beds. This should be forked over every fortnight and new manure put with the old to maintain the heat. This is especially necessary if there has been snow or rain, and sometimes it is necessary to renew the manure entirely.

With regard to the plants themselves, the soil around them should first be cultivated to the depth of four or five inches, and then covered with two or three inches of the same coarse manure that is used in the trenches. At the end of a fortnight you dig under this covering to see if the asparagus is beginning to sprout, for it takes about this amount of time to start it. Then over each plant you put a bell jar, which at night should be covered with manure or thick mats to keep the sprouts from freezing, for they are very tender and the least touch of frost spoils them. But in the daytime the sprouts must be exposed to the full rays of the sun. The asparagus-shoots in the warm air under the bell jars have the same length and size as those that come in the spring, and are even better, for they have been exposed to no injuries.

La Quintinye had his asparagus in rows about fifty feet long and found that they were productive for nearly three weeks. He also arranged so that his rows brought forth shoots in regular succession.

This liberal use of manure and constant attention to the plants may seem to make winter asparagus a royal dish indeed and one that only a Louis XIV. could afford to indulge in. However, in many parts of the South and West, where the natural soil is not yet exhausted and manure little in demand, this method of forcing asparagus may be made to pay. We know of many western towns where manure may be had from the livery stables for the price of carting.

If to this may be added cheap labor, such as is to be had in the South, the method is feasible, but is perhaps more to be recommended for growing on a small scale for private consumption than on a large scale for market. The use of the bell jar is not common in the United States outside of the physics laboratories. They are very common in Europe, where the French call them "melon bells" and use them to force individual melons. It is possible, however, to buy them in the United States in large or small quantities.

All this manner of forcing asparagus, which La Quintinye perfected two hundred and fifty years ago, and which is so analogous with many forcing methods to-day, is only another of the endless number of proofs that there is nothing totally new under the sun, even in horticulture.

FRANK R. ARNOLD.

Vegetables Seldom Grown

ONE of the vegetables more appreciated in other parts of the world, especially around the Mediterranean, than here, and therefore seldom seen in American gardens, is the leek. I have grown it occasionally, but confess that we have not made culinary use of it. In its green state it has a rather rank odor and flavor, which, however, is lost in cooking. Well-grown and well-blanching leeks are quite commonly found in the markets of cities, like Buffalo, having a large foreign population. The best way to grow it is to start seed in early hotbed, giving the young seedlings plenty of room and good attention, and then setting the seedlings, with tops shortened in, in rows eighteen inches apart, say six to nine inches apart in the rows. The soil should be very rich, and the plants set quite deep so that they may be blanched as high as possible by hilling up. Try them. Tastes differ. You may like them.

T. GR.

Kicking a dog is the quickest way to make a cur of him.

In shedding the implements, always arrange them so those needed first will be right at the doors.

Some people seem to find as much pleasure in refusing favors as others do in hunting up chances to do them.

Don't keep poison around the house, except under lock and key. Above all, don't throw it in an open ash-can, for a neighbor's cat or dog may get it, and then you will be sorry.

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ALLEN L. WOOD, Woodlawn Nurseries
570 Culver Road, Rochester, N. Y.

Again the San José Scale

A SUBSCRIBER in Illinois desires to know if the gas or tent fumigating method is used any more in combatting the attacks of the San José scale on fruit-trees.

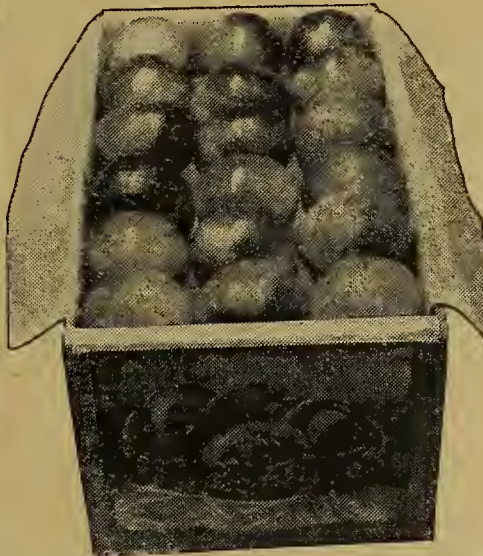
The employment of fumigation for San José scale is now practically confined to the use of nurserymen and citrus-fruit growers. It has been found that for orchards containing large trees, treatment by fumigation is more expensive and no more satisfactory than by means of the lime-sulphur treatment and miscible oils.

Some say that the lime-sulphur treatment has not proved satisfactory. It has been found by most owners of fruit-trees attacked by this pest that eternal vigilance is the price of freedom from injury. Even where the scale is exterminated to such an extent as to do little injury for the season following treatment, sufficient scale escape to reproduce into a mass of destroyers in the course of two or three years.

The scale also propagates on other hosts besides fruit-trees, and where carried from these and neighboring orchards by insects, birds and animals to trees that have been treated. Therefore, the only hope is to spray every year with lime-sulphur or the oil sprays, and to do the work so thoroughly that the entire surface of every part of the trees are covered with the spray material. If any surface is untreated, the scale will multiply so rapidly as to do serious injury within two years' time.

The chemicals used for generating the hydrocyanic-acid gas are potassium cyanide, sulphuric acid and water. A large number of experiments have been made in order to ascertain the best results by use of this gas, and different amounts of the gas, acid and water have been used in these experiments.

The citrus-fruit growers of California and other sections employ sheet tents made of drilling or army duck to enclose the trees while being treated, but, of course, the citrus-fruit trees are so small compared with apple and peach trees that the operation is much more simple. **B. F. W. T.**



Well-packed apples command high prices

They Stoop to Conquer

[CONTINUED FROM PAGE 5]

of these men and women to pull up weeds. There isn't a child in a big family who does not know that weeds rob the soil of its fertility. The amount of labor expended on this feature of the farming is amazing when fully realized, and when it is known that it is done by bent-backed workers on their knees.

Any story of truck-farming inside of a great city of twenty-two hundred thousand people would be incomplete without some mention of the wonderful amount of work and care given to the conservation of soil fertility. Many of the gardeners never think of hauling a load of vegetables to market without hauling back a load of barn manure. Some of them, however, keep special wagons on this job, some of them haul it all the way from eight to eighteen miles, others have it shipped by the car-load to switches handy to the farm, but all make the most liberal use of it toward the intelligent putting back of the fertility taken by the production of crops.

In the matter of laying out a garden-plot, some of the gardeners show tact little less skilful than the work of a landscape architect. They plan their fields so that certain crops are ripened and ready for the market, so that they may be removed and the strips of ground used for roadways over which the loading wagons are driven to gather and market the crops that follow each other successively. None of the wagons used in the field are used to convey a load of vegetables to the market, the market-wagon, a large and capacious vehicle, stands in the farm-yard, the field-wagons being driven alongside and then unloaded on the artistically built load that in some instances is driven as far as fifteen miles to market, and so bound as to withstand all kinds of jostling over a great variety of rough places.

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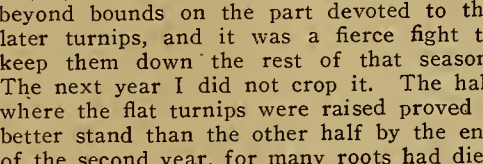
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Cropping Asparagus-Beds

THREE years is a long time to wait for returns for money and labor invested in an asparagus-patch, and many of us grow such crops as turnips, potatoes, tomatoes, peppers, eggplants and squash between the rows until the asparagus is of cutting age.

The question is whether we do not ultimately lose, since a smaller yield of asparagus results from this form of cropping.

Four years ago I put out a bed of asparagus, and secured a fine stand. I planted rutabaga and early flat turnips between the rows, half of the field being devoted to flat turnips, and the other half to rutabagas. The flat turnips were gathered before the tenth of June of that year, and the rutabagas,



This asparagus was cut after four years' growth. The growth the third year was inferior in size

in July. By that time weed-growth had got beyond bounds on the part devoted to the later turnips, and it was a fierce fight to keep them down the rest of that season. The next year I did not crop it. The half where the flat turnips were raised proved a better stand than the other half by the end of the second year, for many roots had died out on the part where the late turnips grew and yet that half of my field had the richest soil.

I cut my asparagus for a short time the third year and for the full cutting season this year. The bed did not yield what it should, but, as it is now in fine, healthy condition, I anticipate a good crop next year. I consider that I put it back just one year by the cropping and the subsequent weed-fight. Of course, many farmers with better tools and more experience would have come off better than I did. However, I have since observed several young asparagus-beds in this section of New Jersey. One promising young bed cropped with eggplants, potatoes and tomatoes last year had to be largely reset last spring. This year potatoes were again grown upon it, and now the bed shows signs of rust.

On very rich soil, with proper cultivation, perhaps the asparagus will not suffer an ultimately lower yield, but I doubt if the average farmer can guarantee just the best of these conditions through each year of growth. There seems to be a feeling that asparagus will stand anything. To be sure, it is a persistent plant difficult to kill from old beds, but nevertheless, though it survives untoward conditions, there may be much less than a profit-paying growth.

M. ROBERTS CONOVER.

Any man who can induce potato-bugs to center their interest on pigweed and "pusley" will deserve a monument when he dies.

The millionaire gets hungry three times a day as you and I do, and he has only one stomach. At the dinner-hour, if free from dyspepsia, he is as rich as we are. Let us be content (on fair wages) with our dinner and—pie with cheese!

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Burpee's Annual for 1912

"The Leading American Seed Catalog"

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SHEERIN'S WHOLESALE NURSERIES, DANVILLE, N. Y.

GARDENING

By T. GREINER

More Fun with Catalogues

AT THE time I am writing, and for a few weeks to come, we may expect fun with the catalogues. The progressive and wide-awake gardener who annually gets his supply of seeds direct from some of the leading seed-houses has no need of applying to them for a copy of their seed-books. They usually come without asking. Every member of the household welcomes them. They wander from hand to hand, and their liberally illustrated pages are scanned and studied for new features and new vegetables and fruits. Prospective customers can have them on application, in many cases entirely gratis, in others for a few postage stamps. They are worth having, worth keeping for ready reference. I am often asked where one or the other of the new vegetables I mention (as for instance, the Giant Purple husk tomato) can be obtained. If you keep the seed-books of leading seed-houses on hand, you can easily find out without having to write a letter of inquiry and to wait for a reply. In the selection of seeds, or anything else you buy, use common sense, and when you find too big claims are made for one or the other of the new things, as sometimes happens, take it with a grain of salt. Not all vegetables do equally well on all soils or under all conditions. Try new things lightly.

Sometimes We Plow in Winter

Fall plowing is good for farm crops, in most cases. It is particularly good for garden crops, even if we have to plow again in spring. Sometimes we have a chance to plow during the winter. This is equally good. Up to this time (Christmas) the ground has not been frozen enough at any time to prevent the use of the plow. In a year like this we ought to have every foot of garden-land plowed before winter sets in in good earnest. It helps. We will be able to prepare and plant the land earlier next spring than we could otherwise. The action of frost on plowed soil is beneficial in more than one way. Plow in winter, if you have the chance.

New Celeries

For a year or two I have made occasionally favorable mention of the Chicago Giant celery. I never had a finer celery than the first two years that I planted this then new sort. It seemed to me a cross between White Plume and Giant Pascal, blanching well under boards, yet having the characteristic wide and thick leaf-stalks and the strong growth of the Pascal, which is hard to blanch. I was very much disappointed in it this past year, however. It was claimed that the seed for the past two years was nearly a complete failure, especially in France. Old seed that I planted in 1909 did

very well. Last spring I had to use new (California grown) seed, and fully a third of it gave me large, stocky, green plants of the Pascal type. I hope that we will be able to procure the original Chicago Giant again.

Not Always a Benefit

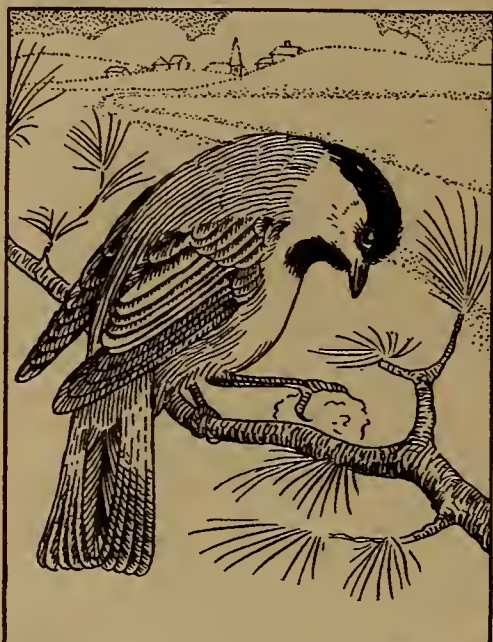
A reader residing in this state (New York) asks me what effect he can expect from putting lime on well-grown strawberry-plants as soon as snow is off and various other questions about lime applications. Much has yet to be learned about the use of lime in the garden. Some things do well in, or can stand, acid soils; and lime for them is of no particular benefit, or even of harm. Other things will not thrive if the soil is the least bit acid, and for them lime is needed, or of beneficial effect. Strawberries seem to belong to the class of plants that are quite contented with somewhat sour soil, and the use of lime for or on them is hardly ever advisable. Let well enough alone in this case.

Celery in Winter

Many gardeners imagine that the green leaves of celery when put under a board or soil covering, or in dark winter storage, become blanched (white). Such is not the case. The outer or green leaves usually wilt or dwindle away. Their substance goes back into the root and helps to make new growth. The white or blanched leaves and stalks are new growth made in the absence of light. A green stalk is always green until it dwindle away. It will never turn white.

Chickadee

I SHALL never tire of talking or writing about the sprightly little chickadee. Though dressed in fluffy feathers, he is only a mite of a bird. Small though he is, he has one of the most cheerful dispositions. It matters not how severe the winter's storm, he can lisp his "chic-a-dee-dee" as happily as on a summer's day, and gather his food as contentedly as though it were sixty-five in the shade. He is a hardy bird. He can



stand the rigors of our cold, northern climate as well as his southern cousins endure the heat of a southern clime.

His back is gray; underneath he is a dirty white; his head is a black cap, and a black muffer covers his throat.

What he finds to eat I know not; but I can guess. His eyes are microscopic; mine are not. He will hop about on the small branches and dangle from the slenderest twigs, all the while pecking away at the bark or terminal buds, gathering, no doubt, the small insects and eggs. And thus he goes from bush to bush, tree to tree, taking time between his "finds" to lisp his name or utter his "day, day; day, day." And on rare occasions he will whistle his two-note "Phoebe" call, of which Mr. Cheney said, "Never were purer tones heard on earth."

Make the acquaintance of the chickadee, and win his confidence, and maybe he will take food from your hand or drink out of a cup with you. He delights in sociability.

H. W. WEISGERBER.

A Bit of Green for Winter

One of the things that I usually plant early and often in the greenhouse is cress. I grow a few rows of it so as to have some pungent stuff to eat with my lettuce. Sometimes I sow a little seed in a large flower-pot or two. I like to have some of this green vegetable during the latter part of winter, too, when I have little chicks in one part of the greenhouse. They like to pick at anything green, and it is good for them. I also sow a little mustard for the same purpose. Mustard and mustard greens are good for laying hens, also. These things can be grown easily in a small space, as they stand crowding, and if we do not have a greenhouse, we can grow them in a large flower-pot or a flat or two in a sunny kitchen-window. It is worth while to have them. Any variety of mustard will do. I had five or six varieties in open ground last summer. The Chinese Broadleaf and the Elephant's Ear gave me immense leaves and a big bulk. This vegetable is also used for greens, with or without the addition of other plants. It is worth trying for both purposes.

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1912 SEED ANNUAL
FREE ON REQUEST

D. M. Ferry & Co., Detroit, Mich.

Live Stock and Dairy

Feed for Profit

Should Be the Aim of the Dairy Farmer in Winter

UNDER the existent high prices of mill feeds and concentrates the dairy farmer is up against a serious problem in figuring out what grains he can profitably feed to his dairy matrons. Especially is this true in the case of the countryman who relies on the local feed-merchant to supply a considerable share of his herd dietary. Every season is more and more forcibly demonstrating the need of the practical farmer feeding the majority of his ration from grain and roughage produced on the home farm. Not only does he realize more money in the long run from such practices, but he is also more nearly balancing the income and outgo of his soils, as where home-grown grain is fed and the resultant manure well conserved and returned to the fields the mining of the soil's supplies of fertility is materially decreased. Many practical dairymen are devoting a large share of their attention to lessening the cost of production where they formerly wasted their time in dickering with the dealers in an attempt to obtain a higher price for their commodity. As a result, more care is devoted to the composition of the ration and the utilization of inexpensive by-products in keeping the cows up to maximum production at a minimum cost.

A prominent Illinois dairy farmer, who recently made an annual yield of 1,000,000 pounds of milk from 118 cows, believes that the future success of the industry in this country depends on the extensive culture of alfalfa and corn-silage, two nutrients which in themselves form almost a balanced ration.

hulls which are left over from the chocolate and cocoa making business in large quantities, and feeds them with excellent results, as the cows relish this feed, which contains 47 per cent. carbohydrates, 17 per cent. protein and approximately 20 per cent. fat. Silage, about forty pounds per day per animal, and ten pounds of alfalfa-hay per cow complete this ration, which is inexpensive as well as productive of an exceptional milk-flow.

GEORGE H. DACY.

Each season a grass-lot should be held in reserve for the dairy cows. At the time of the usual shortage in pasture during the late summer and early fall it will prove immensely profitable.

Sheep in Winter

Proper Care is Essential

THE sheep will bear as much or more neglect than any other farm animal and still survive the winter, but it is always at the expense of the next spring's wool clip and lamb crop. If the sheep are not well cared for, the wool will be poor in quality and light in weight.

The lambs are apt to be weak, and the dams are apt to have but little if any milk, so most of the lambs die.

We often hear it said that there is money in sheep. Money invested in the neglected sheep is lost.

It always seemed to me that we expected too much from sheep when we expected them to pick up a living from the pasture and the woodland winter and summer; to keep the weeds and sprouts down; to improve the soil over which they roam, and also to yield a good profit on the investment.

Sheep will yield a profit to their owners, they help to keep weeds and sprouts down, and they improve the soil, but they must have something to do it with, since sheep cannot live on weeds alone.

They need succulent food in winter to keep them in condition. They need a ration



The sheep need water

On his own farm of 300 acres his ultimate plan is to abolish the use of pasturage and to feed the animals entirely in the stable, on silage, alfalfa and a little purchased concentrated feed. He intends to crop his farm exclusively to alfalfa and corn, and is gradually working toward that end—in fact, his current yield from seventy acres of alfalfa amounted to 400 tons, while he filled his three silos with 440 tons of this succulent silage for the year's campaign. He feeds silage all the year around and believes in feeding his herd up to production and capacity without needlessly cramming or stuffing them throughout the year.

His winter grain ration is composed of ground oats, corn-meal and bran, with an occasional feed of brewer's grain or oil-meal as a tonic and regulator. Even at their present high price he estimates that he derives greater profit from his oats by feeding them than if he were to market them. This year he sold 1,000 bushels of barley which he raised for \$1.25 per bushel, and a portion of this sum went to buy bran, oil-meal and brewer's grains. During the past summer this farmer kept three cows per acre of pasturage by the intelligent use of alfalfa-hay and silage. He says that the dairy cow, to make the greatest production, must be well fed, receive the necessary amount of exercise for the maintenance of good health, and be kept in as contented a condition as possible. He also is of the opinion that as yet the dairy industry is in its infancy in America and that the extensive use of a better grade of dairy cows, as well as the practice of more economical and efficient systems of feeding, will greatly increase our total production, in addition to cheapening the expenses involved in this work.

Another corn-belt dairyman is obtaining good results through the extensive use of by-products in his winter ration. He is engaged in certified-milk production, milking about 150 cows, which necessitates careful feeding and little waste if the project is to return a fair profit. In the first place, this countryman buys burnt and damaged popcorn, which is a waste product of the crackerjack manufacture, by the car-load, and uses this grain in feeding both his cows and swine. He also purchases cocoanut

rich in both protein and mineral matter, to keep up their bodies and to grow wool.

When there is no pasture in winter, turnips and other vegetables are good feeds. Corn, oats and wheat-bran are all good feeds, but no single one should be depended upon.

A. J. LEGG.

Watering the Flock

"I NEVER bother to water my sheep; they get all they need from the dew." This is what one often hears from the flock-owners of this country. But let us look at this proposition in a practical, common-sense way. Sheep are animals with a high body temperature. They are ruminants that generally consume large quantities of rough, dry grasses. They are wrapped in a thick, ponderous woolen overcoat heavier and thicker than nature intended them to wear. They are low down, close to the ground, therefore in an atmosphere hotter, drier and more dusty than the longer-legged beasts and man himself. What is the natural result of such conditions? It must necessarily increase their need for water, and so it does.

Even in winter-time, when the snow offers a better source of moisture than this dew, any flock of sheep will drink from the water-trough if it is clean water and convenient.

J. C. COURTER.

Raising a Motherless Colt

SEVERAL years ago I bought a Clydesdale mare for breeding purposes. She was apparently sound and all right in every way. I bred her, and she foaled a fine colt, but about two weeks after the birth of the colt the mare's udder became inflamed, and she came down with a bad case of milk-fever. It is impossible to eradicate this disease, and after one attack the animal is subject to the disease, and will be affected several weeks after foaling even with the best of care. Such I learned was the case I had to handle, and the only remedy was to allow the mare to dry up.

This left me with a fine, lively, two-week-old colt on my hands, which, to say the least, looked worthy of considerable attention, and I thought I would pay well for such

DE LAVAL Cream and Butter Triumph as Usual At National Dairy Show

Cream and butter produced through the use of DE LAVAL CREAM SEPARATORS made the usual clean sweep of all Highest Awards at the great 1911 National Dairy Show (including the annual convention of the National Buttermakers Association) held in Chicago October 26th—November 4th, just as has always been the case since the organization of the National Association in 1892.

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The sweepstakes or highest award in this class was won by A. J. Anderson, Otisco, Minn., with a score of 97.50, who says: "I have been using De Laval separators for ten years and would not think of using any other."

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The sweepstakes in the gathered cream factory made butter class was won by R. O. Brye, of the Readstown Creamery Co., Readstown, Wis., with a score of 97.33, this prize winning butter being made from the cream of farm patrons using De Laval separators exclusively.

Mr. Brye says: "I was raised on a dairy farm, where my father used a De Laval separator, and my own separator experience covers a period of twenty years. I have found the De Laval machines everything that is claimed for them."

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THE DE LAVAL SEPARATOR CO.

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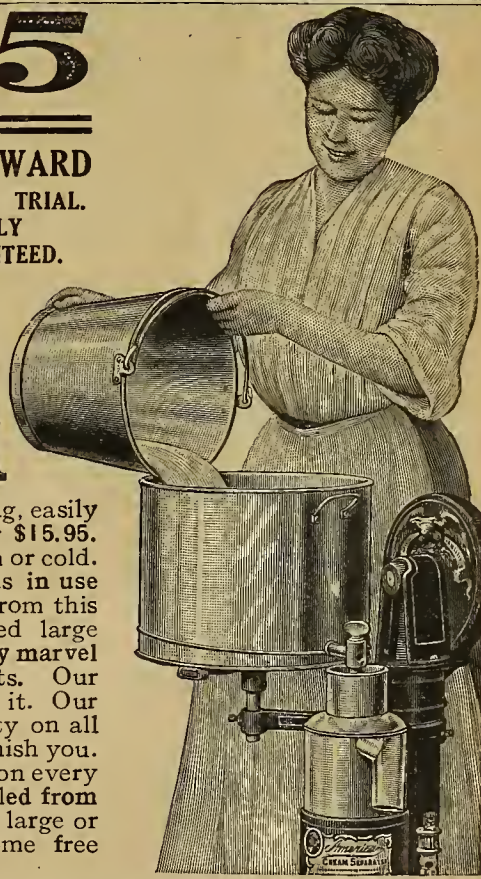
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Old Dutch Cleanser

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attention, so I proceeded to "hand-raise a colt." In order to cause the colt as little worry as possible, I prepared a nursing-bottle for use the first few weeks. Not having a nipple on hand, I used, instead, the thumb of an old kid glove with several pin-holes punched in the tip. This served the purpose admirably. At first I fed the colt every half-hour, giving him one-half cupful at these intervals. I used cow's milk, but in substituting the cow's milk, I selected the milk from a cow with a low per cent. of butter-fat. This, taken when absolutely fresh, was diluted with warm water. Two teaspoonfuls of granulated sugar was added to each cupful and also two spoonfuls of lime-water. This approximated the composition of mare's milk, and was fed at a temperature of one hundred degrees Fahrenheit. The colt took to it quickly, and kept on thriving. The amount of feed was increased, and the number of times of feeding was diminished until when one month old the colt was being fed six times a day. At this age he was taught to drink from a pail, and was thus fed from then on. To prevent constipation, I gave him every second day two teaspoonfuls of a mixture of equal parts of castor-oil and sweet-oil. This mixture I find gives better results than castor-oil alone, because it causes, not a sudden loosening of the bowels, but a continued loose condition.

At one month old the colt was fed a little ground oats and bran, and although he did not eat much, he got the habit of nibbling at it. At six weeks the number of times of feeding was diminished to four, but the food remained the same, the colt at all times having free access to fresh water. He was not kept in the barn, but was turned out in a small shady yard with several calves. This is part of the treatment, because a colt is a sociable little fellow and wants company, and will thrive much better when he is with some other living things whose company he can appreciate.

When the colt was two months old, I substituted skim-milk for a small part of the ration, and gradually increased the amount of skim-milk fed until when three months old he was living on skim-milk entirely. Of course, he had all the ground oats and bran he cared to eat, and when three months old I substituted whole oats for the ground oats. Also, I fed small bran-mashes in which raw egg was mixed. I fed the colt thus until he was four months old, when he was a sturdy, lively, plump youngster, and as no weaning was necessary he kept right on thriving. He grew so well that I bred his mother again and raised the colt the next year in the same way. Contrary to the established belief, these colts have not grown into stunted, worthless horses, but now at the age of three and four years they average close up to sixteen hundred pounds each, and make a splendid, serviceable team. Of course, in raising a colt by hand, you must use your own judgment and common sense. Guard against constipation and diarrhea. There is as much danger of overfeeding as of underfeeding, and worst

of all is the danger of feeding too much at one time. At the present market value of horses, a man can profitably afford to spend a little time in raising a good horse, and if he is careful, he will be well repaid. In feeding a colt, the thing to remember is that we must approximate nature as nearly as possible. Plenty of fresh air, green grass, sunshine, pure water and protection from flies are as necessary as milk and a nursing-bottle. Careful management and kind treatment also contribute to develop the colt into a valuable horse. These precautions, mixed with a few grains of good horse-sense, should help the farmer to raise a motherless foal into a valuable horse.

J. H. MURPHY.

To improve the dairy herd, keep the best, and sell the rest.

The matter of frequent change of pasture for both ewes and lambs should be emphasized, both on account of their health and the improvement of their flesh. One who neglects the change neglects an important point in his sheep management.

Probably the most destructive practice is that of turning the stock onto the pasture-field too early in the spring. At this season the ground is soft, and when thus tramped, produces but little pasture that season. The biting off of the young grass before the roots are well started tends to discourage growth.

Corn-Silage for Hogs

THE question frequently comes up as to whether corn-silage is a valuable feed for swine. This feed is what is ordinarily called a roughage. Swine are primarily adapted to concentrated feeds. This is especially true of young and growing swine. They can use a part of their ration in the form of a roughage feed, but the bulk of it must be in the form of concentrates. Mature breeding hogs can use a larger proportion of their feed in the form of roughage than can young and growing hogs.

Since corn-silage is a carbonaceous roughage, in order to balance this properly in a ration for swine, it should be fed in conjunction with some nitrogenous concentrate. The nitrogenous concentrates are always more expensive than the carbonaceous concentrates.

Clover or alfalfa as a roughage for swine will furnish bulk to the ration as well as will corn-silage and, furthermore, will furnish considerable protein, consequently are better than the corn-silage. Furthermore, the corn-silage contains more undigestible material than the clover or alfalfa and also contains a good deal of hard material with sharp cutting edges from the outside of the corn-stalk that is likely to injure the digestive tract of swine, provided that they will eat it.

On the other hand, corn-silage may have a point of advantage in its favor in the acidity of the feed. Whether this is true or not, the writer does not know. As a whole it is considered that either clover or alfalfa, or even wheat-bran, will answer the purpose considerably better as roughage for swine than will corn-silage. WM. DIETRICH.

Lighting the Barn

ONLY a few years ago this question, "How shall the barn be lighted?" did not demand very much thought on the part of the farmer. Practically speaking, there was only one way by which this was done, and that was the way of using the lantern. At the present time, there are various ways by which barns may be lighted.

The Lantern is Inefficient

Some years ago the barns in use were of a rather inexpensive and temporary nature. As the importance and profitability of the various phases of the live-stock industry became recognized, costly, convenient and permanent structures have been built for housing the various kinds of live stock. This is especially true with dairy barns.

Therefore, a system of lighting in such barns, which is efficient, safe and convenient at a reasonable cost, is very important. The use of the lantern is not in keeping with the kind of barns that many farmers now have.

The lantern is unhandy. To be able to see in the various parts of the barn, it is necessary to carry the lantern on the arm and at the same time do the ordinary chore. This is very unhandy. Besides, it is risky. Barns always contain inflammable material. Straw, hay and other material is likely to come in contact with the flame. Lantern-globes are likely to break and thus cause danger, additional expense, and for a time the farmer is without a light of any kind.

The lantern is not efficient. Even if the hired man or the good housewife cleaned the globe every day, the lantern is not capable of distributing the light. It is, of course, possible to have so many lanterns in a barn that the light would be quite efficient. But this would not be practical. Usually one or two lanterns are all that are used in the ordinary farmer's barn. The writer has many times seen and even used a lantern giving only a partial, dull light. Instead of serving as a source of real light for doing the work, it many times only serves as a center guide around which one can move himself and the work in the barn.

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Barn. The work cannot be done so freely and so properly with improper light. Neither can the stock be shown off to advantage in a half-dark barn. Considering the inefficiency, the unhandiness, the trouble involved, and the risk of fire, the writer believes that when a man owns a good, well-built, permanent barn he should have some other lighting system besides the chimney-smoked lantern.

Avoid the Use of Gases

The writer does not wish to discuss this system as being the proper one to install in a barn. There is too much risk involved. Besides, considerable care is necessary to keep a gas system going. It is, however, possible to light a barn by the use of acetylene or gasoline gas. But the writer would not consider such a system safe and practical in a barn when some safe and effective lighting system can be had at a reasonable cost.

The Electric Light Does Good Work

The electric lighting of barns is undoubtedly the cheapest, safest, most efficient and handiest system of lighting a barn. The writer employs this light in the new dairy barn belonging to the South Dakota State College. This barn is wired in conduits, which method I think should be installed in all barns having electric lights. It is not safe to run the bare electric wire through the barn. Several fires, especially dwelling-house fires, have occurred in our community due to the live wire being exposed. If the wires are run in conduits, there is no danger and the lowest rate of insurance can be obtained. It only costs about one-third more to do this when the barn is being wired.

The question in this connection comes up, "How is the electric current to be obtained?" If the barn is located so as to obtain the



The interior of the South Dakota State College barns

electric light from a near-by city light-plant, it is possible that this will be the better and most convenient way. This is the manner in which the barn to which the writer referred to above is lighted. The light costs twelve and one-half cents per 1,000 watts. During the winter months it costs approximately \$3 per month to run the lights in two barns, one 112 by 40, and the other 120 by 40. Besides, we light the feed-rooms, power-room and milk-room. We have nine thirty-two-candlepower tungsten lamps in the center of one barn, and twelve lights in the other barn. These lights are put on three switches. We seldom have more than one of them turned on at a time. In addition, we have a light in the milk-room, wash-room, engine-room and feed-room. Each one of these is on a separate switch. In order to save light, it is quite important to have a switch for each room, so that these can be turned off whenever they are not in use.

Various companies are now putting out small electric-light plants suitable for lighting barns and houses on the farm.

A twenty-light system, including about a three-horsepower engine, a one to one-and-one-half kilowatt generator, a switchboard and storage batteries can be bought complete for a little less than \$400. Most farmers who have barns and are about to put in an electric-light plant, already have a gasoline-engine. The plant complete, as mentioned above, minus the engine, can be bought for about \$290.

After the plant has once been purchased and installed, it costs very little, if any, to operate it and keep it in repair. The outfit is not complex, and it can be operated by any ordinary careful man.

Many times the farmer runs his gasoline-engine without giving it all it can do. For instance, at the present time the writer is running a twelve-horsepower gasoline-engine for operating the milking-machine. This is more power than is necessary, but in order not to have two gasoline-engines, one for doing the grinding and one for running the milking-machine vacuum pump, we bought one engine to be used for all work. Now the writer could just as well operate a small dynamo or electric-light generator at the same time that the milking is done. The electricity thus generated could be stored in the batteries and could be used at any time for lighting the barn, or for running a motor, or for any other purpose.

Such a plant would furnish a dependable lighting system for the barn at a reasonable price. Such light is bright, safe and convenient. By turning a switch any part or the whole of the barn is lighted up. The work can be done in the most economical manner and the cows and other stock will show up to best advantage. C. LARSEN.

The Cow is Tubercular

"CAN you tell us the trouble and give us a remedy for a cow affected as follows," writes one reader in Texas. "With her second calf a section of the udder belonging to one of the hind teats was noticed to be growing hard, the flow of milk gradually diminished and finally became clotted with ropy, clabbered milk. The trouble was worse at some times than at others. The hardness slowly spread to other sections of the udder, and at the end of four or five seasons the cow was almost unable to walk on account of the hard, swollen udder. This same cow has a daughter with her third calf and the same trouble has appeared in the same section of the udder. The cows are good milk and butter cows, a mixed breed of Jersey and Durham. Can we do anything to check the spread of this young cow's trouble, and save her from her mother's fate? Is this disease hereditary, or is it contagious, and will it affect the heifer calves of these cows? Does the teat, which is now growing hard, affect the milk in the other sections of the udder? This latter cow's milk also at times becomes so strong smelling that we quit using the milk before the hardness in the udder is noticeable. It has now been several months since this strong scent was last observed, but it returns at times after being gone for months. This was not the case with her mother, the older cow, as her milk always smelled sweet and fresh."

There can be little question that the old cow had tuberculosis of the udder and that the young cow, her daughter, has contracted the same disease.

Tuberculosis is incurable in cattle, and an affected udder infects the milk so that it may cause tuberculosis in animals or children fed thereon.

Do not use the milk. Isolate the cow. Have her tested with tuberculin, which will tell within forty-eight hours whether or not tuberculosis is or is not present. If it is, have the cow destroyed. If it is not present, sell her to the butcher for immediate slaughter, as it does not pay to waste any time in treating such a case.

A. S. ALEXANDER.

Dairy Pointers

IN MANY instances the milker makes or unmakes a cow. Better never put a fine cow into the hands of a poor milker. It will do no harm, however, and it may do much good, to put the poor cow into the hands of a good milker. The cow that is naturally vicious and possesses a tendency to kick or switch her tail in the milker's face at frequent intervals is apt to so exasperate that person that he may not only handle her roughly, but also deal out the same treatment to the other cows. Thus she is a detriment to the entire herd in an indirect way.

One medium-sized pumpkin twice a day for each cow is sufficient. If you have stored some of this good cow-feed and want them to last as long as possible, one a day will give good results. To avoid any danger of the animals choking on them, take the corn-knife, and chop them up into small pieces. W. F. PURDUE.

Worms Bother Pigs

"WHAT must I do for the long, white worms in pigs?" asks a contributor to FARM AND FIRESIDE who has had a great deal of trouble in bringing hogs to market in good condition.

Worms infesting pigs may be either what are known as the round worm or thorn-headed worm. These worms grow from five to twelve inches in length and, unless they are quite numerous, usually do but little harm to the pigs. But when they become numerous, they will disturb the digestion, and cause colicky pains, loss of appetite, and make the hair appear dry and lifeless. Cases are known where they have worked through the walls of the intestines, reached some other organs of the body and caused death.

These worms do not develop in the intestinal tract, but when the eggs are discharged they are carried into streams and water-holes, and usually gain entrance to the stomach with the drinking-water.

A remedy recommended for these worms is the fluid spigelia senna given in one-half-ounce doses every four hours until it causes purging. Another remedy is turpentine in doses of from fifteen to twenty drops three times a day for adult hogs, and for smaller ones in proportion. This should be followed by castor-oil or Epsom salts.

Another remedy is to beat up two ounces of pumpkin-seeds into a pulp with sugar, and give it one dose. This should be followed in four hours with a brisk physic, castor-oil or Epsom salts. B. F. W. T.

Unless the smaller and weaker stock are furnished separate quarters from the grown herd, the little fellows are pretty sure to be crowded into the coldest corners of shelter.

The only way to feed silage correctly is to have reliable scales at hand and weigh every ration fed.



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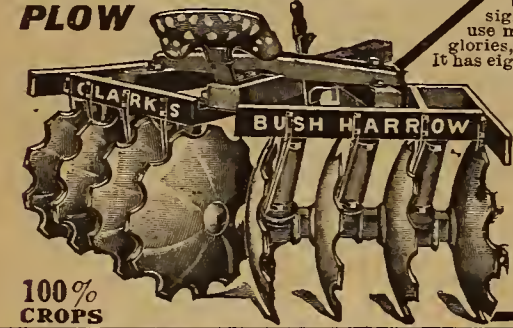
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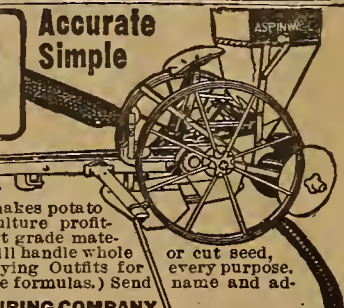
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Crops and Soils

Double Cropping in Dakota

WHERE live stock is kept on a farm, it is practical to double crop a portion of the farm every year as far north as the northern line of South Dakota. But, of course, one of the two crops is a forage crop cut green for fodder for the stock, or else pastured off green.

The first time that I realized that it was possible to grow two crops on one field in one season in South Dakota was at the state sheep-breeders' meeting at Aberdeen some seven or eight years ago. Mr. Frank Sherwood of Brookings told how he had for years been growing barley and rape, and oats and rape in the same field the same season and on a very large scale. He sowed the rape seed with the grain in the spring. The rape did not make growth enough to bother the oats or the barley while growing, but after harvest, when the grain was off and the ground no longer shaded, the rape made a rapid growth and was a very valuable sheep and lamb pasture. Mr. Sherwood said that he often got as much money from his rape-field as he did from his grain-field. I have now for years followed this practice and in all years of ordinary rainfall and in fields that are reasonably rich in humus, it is as much of a success as Mr. Sherwood said it was. But to accomplish the results one must understand feeding sheep and lambs. We not only sow rape in all the grain-fields, but corn-fields as well, and the sheep live high here from harvest till near Christmas, when the rape freezes down. Young cattle also make excellent gain when turned into corn-fields that were sowed to rape at the last cultivation and husked early. The green, succulent rape and the dryer corn-leaves make them thrive remarkably well.

Some years ago I knew a progressive old farmer who made a regular practice of sowing his rye-field to millet. This involved quick work at just the right time and only those who have their work well in hand could follow the plan. His rye was always in early the fall before and was almost invariably cut and shocked the first week in July. He stacked it at the earliest opportunity, and plowed the field at once, and sowed millet, usually finishing the field by the twelfth, not later than the fifteenth, of July. This made a good hay crop. He needed the hay badly for a large herd of cattle which he always kept. For many years he made unsuccessful attempts to get alfalfa started on his farm. Finally he succeeded in getting a large field well established and he discontinued the millet-hay crop. His alfalfa-field yielded him not two but three crops each year, each one of which was more valuable than the millet, and it took far less labor to get it. Had the old man lived many years more, I feel confident that his farm would have been in three divisions and only three. They would have been the pasture, the corn-fields, and the alfalfa-fields. He was working to that end as rapidly as possible, when early one morning his heart stopped beating without the slightest warning and the good, progressive old man was laid in his last resting-place. That was before the days of silos out here, yet he was talking of them, and I feel confident he would have had two and possibly more, in a few more seasons, had he lived. He had owned a corn-shredder for years, and with shredded fodder, corn-silage and alfalfa he would have been fixed to care for his cattle and his hogs as he had always desired.

Our entire object in farming is a good, comfortable living and as much financial gain as we can get without robbing the soil of its fertility. Alfalfa is preëminently the queen of our agricultural prosperity. She yields not two, but three crops a year, each one of which is as valuable as an average grain crop; but alfalfa must go hand in hand with corn to balance the feeds produced on the farm. Double cropping of grain is a practical impossibility in South Dakota, but the combining of corn and alfalfa is a combination for the stock farmer that beats double cropping, for it does not reduce his soil fertility, yet gives him the income that a double crop would. The time is not far distant when many South Dakota farms will grow only alfalfa, corn and pasture. There will then be silos on almost every farm in some counties.

PAUL H. BROWN.

That Weedy Corn Crop

IN FARM AND FIRESIDE of November 11th, Mr. H. M. Knox tells how, for certain reasons which he explains, his corn crop, intended to be followed by oats and clover, became full of weeds. May I suggest an easy, certain and maybe even a paying way of getting rid of them?

If he has no sheep, let him buy, say, twenty-five three to four year old ewes, and turn them in as soon as possible after his corn crop is off the ground. If he will let them range over it not mowed, for his silage, his weeds will disappear as if by magic, and his land will be as well

spread coat of manure. He can then breed the ewes to a well-bred Shropshire ram, or, if he does not like sheep (though a few are always desirable on a dairy farm as cleaners up), he can sell them, even if he gets but little more than their cost. J. P. R.

An Alfalfa Rotation

FOR some fifteen years several of us have worked to get a place for alfalfa in Ohio. Sometimes we almost despaired of Ohio farmers ever taking hold of it seriously. They understand its cousins, the clovers, and did not understand the alfalfa. And in some way we, through ignorance, told them wrong. But Ohio farmers, if slow, are pretty sure, and soon they found the ways in their various localities to grow alfalfa. To-day the plant has so firm a hold on the state that it would take a series of very disastrous seasons to dislodge it, if indeed such a thing could be possibly done. Farmers feel its intrinsic value, because they see all kinds of stock eat it and thrive upon it. They are reluctant to sell it at any price. But if they do sell it any year, and especially this year, they and the purchasers find its cash value to be great.

Twenty-one dollars a ton we were offered for all of the five hundred tons that would grade well, and it took a great deal of sand for us to hold onto our share and start feeding it to lambs. Many of our fields this year would have brought at least eighty-five dollars-an-acre grass at that figure, or sixty dollars an acre cut. And any year in the past ten years we could have traded the product of an acre pound for pound for ear-corn. As that product is about four tons, you will see that it could be traded for about one hundred and twenty bushels, or four tons, of corn.

This year the corn is only worth, as I write, about fifteen dollars a ton, or fifty-two cents a bushel. So this year corn is the cheaper feed, and I am acting on that condition and starting with corn early. Years ago, before alfalfa became appreciated and when it was lower in price in relation to corn, I fattened lambs good enough to top the Buffalo market and only fed corn the last forty or fifty days, and they got big and heavy on that, too. Bigger framed than they will get for me this year, but not quite so fat as they will get this year, I suppose. Yes, Ohio farmers appreciate the alfalfa now and are learning to grow it to feed to hogs and to sheep and to cattle and to horses and even to poultry in the form of meal.

We here are not very heavily interested in poultry, but we do have a very successful little hog-farm, where alfalfa is the main feed for the seven warm months, and now we hope to see in the near future at our farm a mill to grind the alfalfa into meal. I think there is little doubt that such an enterprise would pay here as there are many big hog-raisers who would ask for the services of the mill or would buy its product. I find that some of them would be willing to pay two dollars more a ton for the meal than they are now paying for ship stuff, and would use it mixed with ship stuff, perhaps half and half, as a winter ration for fall pigs and for brood-sows. To the amount needed to displace ship stuff or bran a saving can be effected of, say, twenty-five dollars a ton and up to the limit needed for this use, though an acre may produce one hundred dollars annually.

Alfalfa Raises Land Values

Just as a little matter of interest to alfalfa-growers I would say that I have met this summer and fall at our farm some two hundred Illinois land-seekers. These men have heard of our place and want to see it. One of the first questions they ask of me is whether in my opinion this or that farm will grow alfalfa. Answers in the negative would hurt the selling price of the farm very materially, I can tell you. Yes, the alfalfa is already a great plant for Ohio, and we have only just started in growing it. Sometimes my friends have asked me why, if alfalfa is such a fine crop, we fool with any other crop. Well, on that little hog-farm I spoke of we are not fooling much with any other crop. We cut what hay we have time to cut (that the hogs do not need), and let the hogs do the rest, save for one twenty-acre field of corn.

We are able to buy corn reasonably around this farm, and it works all right to have about three fourths of the farm in alfalfa.

One man in winter and one man and his sons in summer can do all the work on this farm, and while it is only running at one half the capacity, it will turn off this year some forty thousand pounds of pork.

But on our main farm we have an entirely different system. In summer we have no stock except the cows and work-horses and some Percheron colts. In winter we feed the corn and alfalfa we have been growing during the summer. We have some one hundred and seventy-five to two hundred acres under cultivation, and in our humid climate and with the scarcity of help that exists I would not wish to go up against the harvest of two hundred acres of alfalfa, having no other crops with it. It would not be a bad idea. We could not get men to sit

around their homes and wait for good harvesting weather and we would hate to see them sitting around on our time. And so it is economical to diversify our crops a little where we labor to grow and harvest them. There are some days that we can be breaking ground while the alfalfa is growing, and some more days we can be fitting and planting that ground. And we can cultivate it on very cloudy days perhaps, when hay is not drying well. It is more economical. Now corn is the natural complement to alfalfa. The two, corn and alfalfa, are the only feeds we need to make a balanced ration, and the corn succeeds best after alfalfa. But it takes one year to get the alfalfa started, and so we use a nurse crop of barley, spring barley, or else winter rye, which we sow in the spring as a nurse crop for the alfalfa.

Corn, Barley and Alfalfa

Now the three-year rotation, of corn, wheat and clover, was a good one, a practical one. How will it do to use two sixths for corn? That's one third for corn just the same, isn't it? And one sixth for barley or rye, and three sixths for alfalfa.

That gives you one year of corn on alfalfa sod, one field on old ground for corn. The alfalfa sod is pretty tough plowing, but if it has had alfalfa on it for half time, the ground will grow two crops of corn. The manure can be put on the field planted the second time to corn. This gives one half the usual amount for the nurse crop or small grain and I do not think most farmers would object to this.

WILLIS WING.

Field-Crop Insects

THE winter months afford many opportunities for fighting some of the most destructive insects affecting field crops. Such pests are passing the winter in various sorts of shelter upon or beneath the soil surface, and a knowledge of where each sort is hiding will help in an intelligent war against it.

On level lands, where plowing can be done in fall and winter without undue washing or leaching of the soil, this practice is helpful in reducing insect injuries. Wireworms have changed into click-beetles or snapping-beetles, which are resting in oval cavities in the soil. White grubs have



A locust depositing eggs in the soil

developed into May-beetles or June-bugs, which are also resting in similar but larger cavities. Plowing breaks up these protecting cells, and exposes the beetles to the weather as well as to such efficient enemies as crows, blackbirds, hawks, skunks and foxes. The chances of the beetles living till spring to lay eggs for new broods of wireworms and white grubs are thus greatly reduced.

Some of the cutworms also pass the winter in oval cells in the earth, so that plowing helps to destroy them. Others find shelter in the grass or rubbish at the surface, and plowing under reduces the shelter for them.

The destructive root-lice of corn, cotton, strawberries and various other crops live largely on the roots of grasses and weeds growing in the fields. Plowing buries the weeds and so reduces the food-supply of the plant-lice. Many other pests are also checked by such plowing.

Such plowing of grass-lands, especially those with firm turf, like pastures and roadsides, is one of the most effective ways of checking the common grasshoppers or locusts that so often prove troublesome to grains and grasses. The eggs of these insects are deposited in masses in the ground as shown in the picture, and remain unhatched until the following season. The breaking up of the soil breaks apart the egg-clusters and leads to the destruction of many of them.

In regions where chinch-bugs are destructive they hibernate about the roots of grasses in meadows and along fences and highways. Many of them may be destroyed in these situations by burning over the grass. This also kills other insects wintering at the surface of the ground, including such pests as the spotted and striped cucumber-beetles, the army-worm and cutworms and various other enemies.

In many states the cornstalk-borer is a destructive pest. This insect winters over as a caterpillar in the stubble left in the field. In spring these caterpillars change to pupae or chrysalides that later change to moths that lay the eggs for the new brood of caterpillars that attack the young corn-plants.

Obviously the thorough destruction of the stubble and old corn-stalks left in the field will kill off the caterpillars and so reduce the crop of egg-laying moths. Such destruc-

tion also helps to check the injuries of the billbugs that winter as larvae in the lower parts of old corn-stalks.

CLARENCE M. WEED.

The Use and Abuse of the Corn-Lister

THE lister has a place among the modern farm implements, but, like all other pieces of machinery, it has a certain work to do in certain classes of soils. I know of no piece of machinery that is more wrongly used to the detriment of the user than the lister. The place to use the lister is in fields of rich, dark loam, usually bottom-land, where corn will grow rank and tall. For the best results in the use of the lister, the ground should be double listed—that is, the grain-stubble should be listed into ridges in the summer as soon as the grain is stacked. Then, at plowing-time in the spring, the ridges should be split by the spring listing. Thus the entire surface of the field has been plowed after a fashion. In rich land, good crops are obtained this way, providing the crop is well cultivated after it is listed in. For years it was the practice of the corn-growers between Sioux City, Iowa, and Omaha, Nebraska, to list certain fields to corn year after year, single listing in the spring between the year-old stalks. It worked for a few years, but now those fields do not yield as they used to, for the fertility and physical condition of the soil are lacking. Many men claim they can keep a listed field cleaner of weeds than a check-rowed field. I have yet to see a listed field that is as free from weeds as a real well-cared-for check-rowed field.

A man must have special cultivators for his listed corn. For the single-row work the most general satisfaction is gotten from a good disk-cultivator. There are several makes of two and three row lister cultivators of various combinations of disks and shovels, all of which do fairly good work and are pulled by three or four horses.

The lister has a geographical limitation beyond which it is folly to attempt to use it. The northern boundary of the State of Nebraska is about the northern limit of the lister. North of that line the season is too short for corn to attain growth enough to make listing desirable or even practical, as the ears of corn are too near the ground at husking-time. It is folly to try listing west of the ninety-eighth meridian on account of the loss of moisture in the ridge. Many years ago I heard an old Welshman sum up listed corn-fields, and my observations since have been in accord with his terse remark: "A listed field is easy to take care of. It is soon put in in the spring, and it is quickly husked in the fall, for there ain't much corn to pick." I might add that generally the physical condition of the soil was poorer and the field more weedy than before the lister was put in.

PAUL H. BROWN.

One Thing for Congressmen to Do

[CONTINUED FROM PAGE 4]

Without them we can't tell whether he is at Washington or at home with a case of lumbago, that somebody is hiring him to have while they get a bill passed, and we will grow suspicious and morbid, and Millet's picture of "The Man with the Hoe" will become the universal type.

Millet told me just before he died that his painting was the portrait of a precinct chairman on the North Fork of the Skookumchuck who supported the wrong man and got no seeds for four years. He said he never saw a man so transmogrified by despair. He said the fellow didn't care so much for the seeds, but hated to have congressmen run it over him that way. I asked him the meaning of transmogrified, but he had lapsed into unconsciousness.

There are ways of getting around the evils of a system without abolishing it. Getting around evils without abolishing them is an easy matter, once a government gets the hang of it. Let us not abolish the free-seed evil until my seed-growing contract expires. I suggest the following ways of getting around the cost: If necessary, the capitol lawn can be plowed up and sown to turnips so the congressman's vision will not be distorted, or he can be convinced in some other delicate way that tastes differ and that seeds, regardless of variety or vitality, are not the paramount issue.

If we could each frank him something, something of about the same value that the seeds are to us, he would get a picturesque assortment of pet lizards and bone collar-buttons and rice pudding, etc., that would readjust his perspective, and the distribution of seeds would be more logical and less liable to locomotor ataxia—as it were. I suggested this to Senator Guggenheim, but he says the government can't afford to extend the franking privilege to the ho polloi while the price of beer and pretzels is so exorbitant, owing to high taxation.

It would be easy to revise our election laws so that when a man votes he can specify on the poll-books what kind of seeds he wants, or write "No Seeds" after his name, or we could have a series of small pictures on the ballots, so the voter can check off a canary or a cuspidor or cook-stove to show what branch of agriculture he is engaged in. The statistics could then be turned over to the congressman and he could act intelligent.

Experts might also be sent out to tell people what to do with the seeds. With a few thousand experts we could soon have rows of cabbage from New York to San Francisco and the price of living would be reduced so we could pay more taxes and make up the postal deficit.

If there is too much sameness, amend the constitution and have the seeds done up differently. Put them in little boxes with red heart-shaped windows of isinglass—like the old-time prize boxes we used to get. Drop in some trinket like they used to contain. The excitement of digging into them to see what you got will revive interest in seeds where it has flagged and help folks to forget their troubles.

If this is not thought advisable, discontinue them temporarily and frank out something else for a while. The government might put in a line of toys and novelties for the congressman to pay his political debts with. Marbles and tin animals would please the children. Safety-pins are always useful in the family—about a pint of them. Whetstones are cheap and attractive and often useful. Some carpet-tacks or any little thing would do. Folks would come back to seeds later with renewed enthusiasm.

If government seeds must go, to save a few paltry millions to the seed and postal departments, if there is no other way, do not abolish them at a blow and unsettle business. Eliminate them gradually, as we do the trusts. The average packet now contains about twelve seeds. Say we put in only eleven this year and ten next year, and so on year by year, until finally in 1923 the seed-hungry multitude will get a little, forlorn limpy sack with nothing in it and will heave a sigh of resignation, and business will go right on doing the people.

Orchard-Grass for Pastures

IT SOMETIMES happens that one buys some worn clay fields, plowed too long and eroded and depleted of humus until it becomes a difficult matter to obtain a stand of grass. On such a field some orchard-grass may be used to advantage. If a little bluegrass be used with it, a more perfect sod will be formed.

Orchard-grass has some advantages over bluegrass. Orchard-grass starts easily on worn lands. It comes on early in the spring, and it resists drought better.

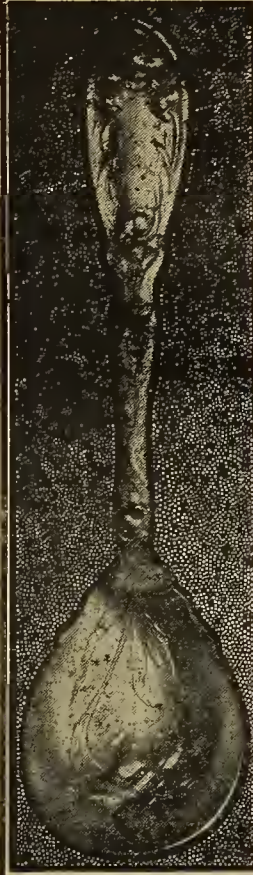
Its stiffer stem holds it up better against winter snows, also. Stock prefer bluegrass to orchard-grass most of the year, but at the time of reseeded a pasture I think some orchard-grass may be used with advantage.

WILLIS WING.

Don't let that enthusiastic silo man sell you more than one one-hundred-ton silo unless you have more than eighteen head of stock or an exceptional amount of experience. Silos, like many other good things, can be overdone.

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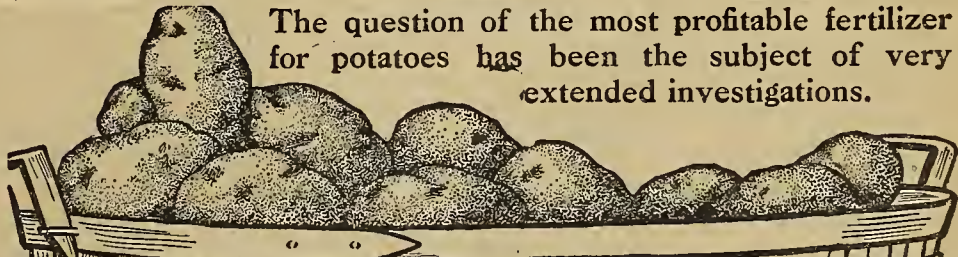
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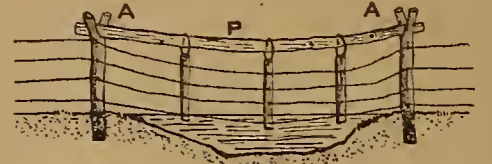
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Easy Methods for Saving Steps and Time on the Farm

A Flood-Proof Fence

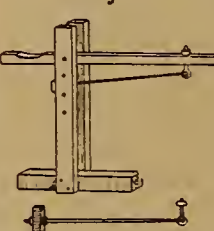
TO MAKE a fence which will survive the spring freshets without need of repair, place two strong forked posts (AA) at each side of the brook or ravine. Secure a strong bent pole (P), or trunk of small tree, and fasten firmly with wire to the forked posts. From pole (P) hang



Adjustable Wagon-Jack

THE sketch shows a wagon-jack which I have used for five years and which gives the best of satisfaction. The uprights are made of 2x3x30-inch boards. The same size 14 inches long is used for the base, and a small hlock of the same is bolted between the uprights at the top. Any wood will answer, but the lever should be made of hard wood, about four feet four inches long. The rod below has a block 2x2x6 inches, bolted on one end and an eye-bolt on the other end to bolt through the lever. A loose pin should be used to fasten the lever to the uprights, and by boring several holes through the uprights the lever can be shifted to suit whatever you wish to raise. As you lower the lever, the hlock will slide down the uprights and hold the load at any position.

W. W. POLLOM.



A Ratchet Wrench

A HANDY pipe-wrench can be had by using a common monkey-wrench and a piece of rat-tail file. Open the wrench wide enough to allow the file to crowd between the side of pipe and wrench-jaw as shown in sketch. A is pipe and B is file. By holding the piece of file with the fingers, you can use this as a ratchet wrench.

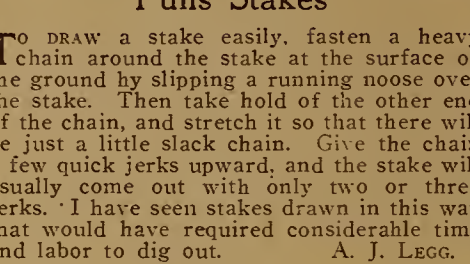
C. F. WHITNEY.



Pulls Stakes

TO DRAW a stake easily, fasten a heavy chain around the stake at the surface of the ground by slipping a running noose over the stake. Then take hold of the other end of the chain, and stretch it so that there will be just a little slack chain. Give the chain a few quick jerks upward, and the stake will usually come out with only two or three jerks. I have seen stakes drawn in this way that would have required considerable time and labor to dig out.

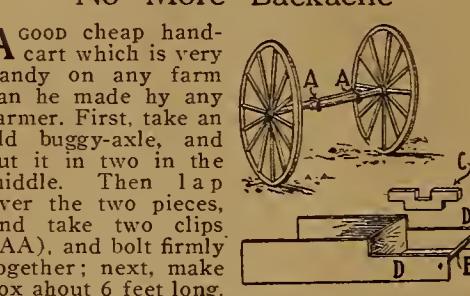
A. J. LEGG.



No More Backache

A GOOD cheap hand-cart which is very handy on any farm can be made by any farmer. First, take an old buggy-axle, and cut it in two in the middle. Then lap over the two pieces, and take two clips (AA), and bolt firmly together; next, make hox about 6 feet long, letting the two lower side hoards (D) extend full length, for handles. Bore holes in each, and put in a round piece of hickory. Next, take two hlocks about eight inches long (C), saw them out like cut, just wide enough to admit the axle, and holt to the bottom of hox. When finished, you will have one of the most useful contrivances about the place.

W. F. MYERS.



Cheap, Humane Stanchion

FASTEN a piece of chain with large staples to the top and bottom cross-heams. Put a ring-snap hook on the chain, so it will slide up and down. Either fasten the snap to the halter, or use a strap or a chain around the neck. The cows can turn their heads and handle themselves as if in swing stanchion, but they are held firmly in place.

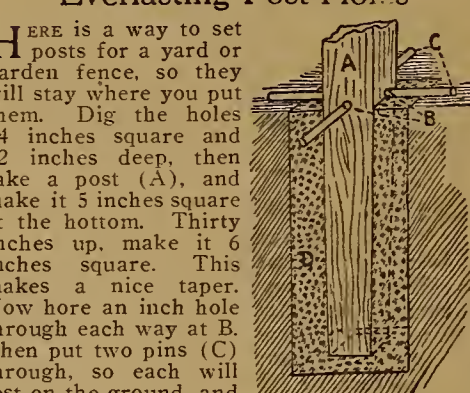
A. D. ALLEN.



Everlasting Post-Holes

HERE is a way to set posts for a yard or garden fence, so they will stay where you put them. Dig the holes 14 inches square and 32 inches deep, then take a post (A), and make it 5 inches square at the bottom. Thirty inches up, make it 6 inches square. This makes a nice taper. Now bore an inch hole through each way at B. Then put two pins (C) through, so each will rest on the ground, and thus hold the post in place. Then fill space (D) with concrete. After this sets a while, lift the post out, take it to the next hole, and so on. Then dress your posts all to this pattern, and drive them in. If they rot off, it is an easy matter to put in new ones.

B. F. REINHART.



Kills Sparrows

A SMALL wire is stapled to the top of the post and runs along the board loosely and up through a loose staple at other end. From there it runs off to a post at the barn, or some place where one passes often and where there is a good stick. When you see the birds on the hoard, hit the wire, and the tension brings the wire up and knocks the sparrows.

F. Z. DEXTER.



The Chicken-Protector

TAKE four boards, three feet long, as A, and nail corners firmly. On one side of frame cover with one-and-one-half-inch-mesh chicken-wire, as C. On the other side, on each corner, nail stakes three and one-half inches high, as B. Set it on the ground with stakes down. This is a handy way to feed chickens. Just put the feed under the wire, and the chickens can go under, and it will keep the hens and turkeys from getting to the feed.

W. S. NEVILLS.



A whirlwind start sometimes goes before a dead-calm finish, but, nevertheless, do all your work with a vim.

A farmer we know filled an old gunny-sack last fall with choice seed-potatoes and buried them with the rest of the crop. They kept well.

Use KEROSENE Engine FREE!

Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing.

Gasoline Going Up!

Automobile owners are burning up so much gasoline that the world's supply is running short. Gasoline is 90 to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline. No waste, no evaporation, no explosion from coal oil.

Amazing "DETROIT"

The "DETROIT" is the only engine that handles coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Basic patent—only three moving parts—no cams—no rocks—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h.p., in stock ready to ship. Complete engine tested just before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric-lighting plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate amazing, money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, we will allow you Special Extra-Low Introductory price. Write! Detroit Engine Works, 133 Bellevue Ave., Detroit, Mich.



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And You Keep This Great Chilled Cylinder Engine

The rest in the easiest monthly payments.


We send you the engine on free trial, to prove to you that it is exactly what you want. 10 days' free trial. Send it back at our expense if not pleased. Free Book, "How to Use Power." Send name and address and get free book and all particulars of this great offer.

Schmidt Bros. Co. Engine Works
Department 4032 DAVENPORT, IOWA



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NEW—WONDERFUL Standard-Gillett Safety Lamp

Portable—can be placed anywhere. Brightest light known. Twice as bright as electricity. Costs one-fifth of a cent per hour. Beautiful, soft, mellow light; particularly desirable for reading. Base of lamp made of nickel brass. Shades in all colors to suit any taste. Write for illustrated circular No. 236.


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Prepare as Firemen, Brakemen, Electric Motormen, Train Porters (colored). Hundreds put to work—\$65 to \$150 a month. No experience necessary. 500 More Wanted. Enclose stamp for Application Blank and Book. State position.

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Brand's patented Automatic Razor Stropper. Automatically puts a perfect edge on any razor, OLD style or SAFETY. Big seller. Every man wants one. Write quick for terms, prices and territory.

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\$61.50 WEEKLY

INTRODUCING and selling the NEW GASLIGHT BURNER for all Kerosene Lamps. No chimney, no smoke, fits any lamp; lasts for years. Fast seller, no risk, 200 per cent. profit. Experience not necessary. SAMPLES FREE. Beware of imitations. No branch offices. Address LUTHER MFG. CO., Dept. 85, Cincinnati, O.



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100 other styles. Many cheaper than wood—all better. For Lawns, Churches, Parks, etc. Write for Pattern Book and special offer.

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Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries. Colled Spring Fence Co. Box 403 Winchester, Ind.




ELLIS Guaranteed Service ENGINES

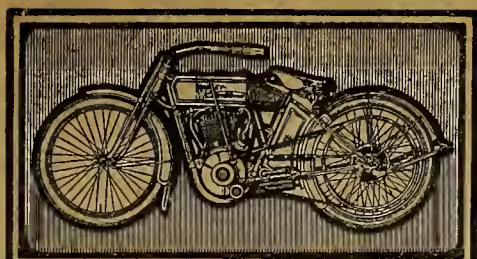
Run on gasoline, kerosene, distillate, any cheap fuel oil. Cost less to operate, develop more power. Patent throttle gives three engines at prices of one. Many other exclusive features.

30 Days' Free Trial. Guaranteed 10 years. Here's your chance to do away with help and save money, time and labor. Absolutely the best engine for farm use. Write for catalogue.

ELLIS ENGINE CO.
21 Mullet St., Detroit, Mich.

WE PAY FREIGHT





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THE new Harley-Davidson is truly comfortable. Its *Ful-Floating* Seat makes the bumpiest road seem like a boulevard to its rider. This seat takes up all the jolts and jars common to an ordinary motorcycle.

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We have a booklet for you telling about these two new improvements and others. Better send for it right now.

HARLEY-DAVIDSON MOTOR CO.

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Just out. Patented. New Useful Combination. Low priced. Agents aroused. Sales easy. Every home needs tools. Here are 15 tools in one. Essex, Co., N. Y. agent sold 100 first few days. Mechanic in shop sold 50 to fellow workmen. Big snap to hustlers. Just write a postal—say: Give me special confidential terms. Ten-inch sample free if you mean business. THOMAS MFG. CO., 5746 Wayne Street, DAYTON, OHIO

\$4 Puts a Set of Steel Wheels on Your Wagon

Try wheels 30 days for heavy hauling on roughest roads. If wheels are as represented, pay balance. If not, back comes your \$4. Write for Free Measuring Device.

EMPIRE STEEL WHEELS

Made in one piece! All sizes, to fit any axle. Save 25% of draft. Thousands sold. Owners delighted. Life-savers for men and horses. Book Free.

Empire Mfg. Co., Box 923, Quincy, Ill.

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LANE'S STEEL JACK.

All steel. Unbreakable. Compound levers. Quickly adjusted any height. Best and easiest operated jack on market. Thousands in use. Ask your dealer or LANE BROTHERS CO., PINE ST., Poughkeepsie, N. Y.

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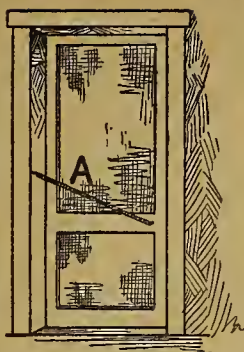
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Tells what Co operation has done by 20 Big, Important Factories combining their Producing Power—to increase quality—to lower prices—and to divide their profits with you. Three quarters of the selling expenses of these great co-operative factories entirely eliminated. Saves an immense sum for buyers of all farm and home necessities. You buy direct from headquarters. **Biggest Saving Opportunity You Ever Had**

Get "Book of a Thousand Bargains" today on Roofing—Paint—Vehicles—Farm Implements—Fencing—Household Goods, etc. Everything you need. Don't delay. Write now. Address **The United Factories Co., Dept. B-49 Cleveland, O.**

It Sags Not



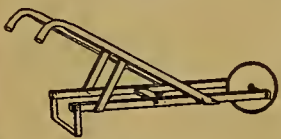
and on all small doors.

FASTEN the end of spring (A) about a foot higher on the door-frame than the other end of spring, and the tension will keep the screen from dragging.

It is well, where this device is used, to see that the spring is a strong one, otherwise the job may not be satisfactory.

This same principle can be used on many loosely made panel G. M.

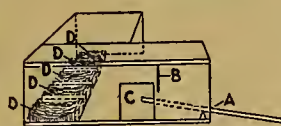
Get Rid of Weeds



HERE is a good, cheap, handy weeder, and it will do as good work as a thirty dollar machine. It will cost less than three dollars to make it. Make the frame 20 or 24 inches wide and about 36 inches long. The wheel can be about 10 inches high. A wooden wheel two inches thick with a tire on it will do. The knife is a bar of steel two inches wide and 7/8 inch thick, bent so as to lift the frame 5 or 8 inches from the ground and is sharp on the front edge. Slightly bend the blade down or not, as desired. Plow-handles, store bought, will be best for handles. The frame is made of two-by-fours. It is intended to run between rows and cut the young weeds off under the ground. Therefore, keep it sharp. Bear on the handles. Since this is a one-horse machine, it is convenient between closely set rows.

H. N. KERR.

Combination Nest



SKETCH shows a "combination hen-nest" used by all successful poultrymen. It is made as follows:

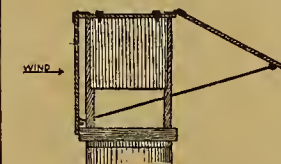
First, make a box 4 feet long, 15 inches high and 12 inches wide. One end is to be left open, into which extends a teeter-board (A) 16 inches. Stretch a piece of wire netting (B) across the box. Let it be low enough so that the fowls cannot pass back out, but can easily enter the box. Make nest (D) and an "exit hole" (C). This opens into another yard.

Second, make another box 5 feet long, 15 inches high and 24 inches wide, adjust in an "ell shape," as shown in sketch, with a twelve-inch passage from first nest (D) clear on through to the back nest. The nests marked (DDDD) are twelve inches apart and twelve inches long.

Doors are made over each nest, but are not shown in the sketch. These are for the purpose of easily getting at the eggs and easily cleaning the nests.

By these nests poultrymen can tell the hens that are laying and the ones that are not by their entering from one yard and going out into another. FRED. VIEISON.

Improved Chimney-Cap



THIS cap should be made of sheet metal (heavier than ordinary) cylindrical in form and preferably one or two inches larger in diameter than the pipe upon which it is placed. The cap is closed at the top. Four oblong openings with square corners are cut equidistant from each other, just below the top of the cap. The height of the openings should be at least one and one-half times the width. Four oblong sheet-metal covers, curved and made large enough to lap over the edges and tightly close the openings, are hung by hinges at the top, to the top of the cap, so as to swing freely. A stiff iron rod, approximately twice as long as the diameter of the cap, is then attached midway of the width of the two opposite covers near their lower edge, covers being far enough above the lower edge of the openings to avoid striking. The rod must be so attached at each end that when the covers swing to and fro they may do so freely.

It will be seen that even in a variable wind the smoke will always go out in the same direction as the wind and there can be no blowing down of smoke. H. S. GORFE.

This Gate-Latch Works, Too

THIS little device is especially good for roads used by travelers or riders who are too careless to close gates.

Get a piece of iron about 1 foot long, two inches wide, about 1/4 inch thick and pointed at one end. Bore a 1/4-inch hole in the square end about 1 inch from the end. Now get an iron bar about 15 inches long, and bend it in the shape of a link. Then give it another bend. Now cut the link at one end, and insert it in the hole in the iron bar. Drive this device into the post and have an extension board on the gate. This board will strike against the bend of the link, which will fly up and fall down behind the extension board, thus locking the gate securely.

Fix the gate so that it will slam against the post by itself. BENJAMIN R. WAHL.

One More Rack-Lifter



THE following dimensions of a one-man rack-lifter are given for unloading rack from high-wheel wagon. To make frame for rack to rest on, take four posts set five feet above ground about ten or twelve feet apart lengthwise and just wide enough to drive through with rack on. Saw notch two inches deep in front side of each post. Down six inches from top split out a piece and nail two-by-four over it, leaving a slot two inches wide and six inches long. To unload rack, drive between posts, block wagon, set lifter lever under center of one end of rack and lift by pulling down on long end. When high enough, catch loop (see sketch) in notch at end of lever, which will hold rack without help. Take two-by-six ten feet long, and slip it under the rack through slots in post. The other end likewise. To load, pull wagon under rack, raise one end with lever, fasten wire in notch, pull out two-by-six, and lower on wagon.

One man can easily load the heaviest rack with this lifter, which, made with shorter legs, is very handy for greasing wagon. S. CRISLER.

Automatic Rat-Trap



BURY a one-gallon jar in the ground as shown in sketch. Fill two thirds full of water. Drive a notched support in the ground about two inches from the jar. Make a tin trough. Drill a hole through both edges about two inches past center. Put in place and fasten by passing a spike nail through support and trough. Nail two wires for bait to the support. At night, put on a piece of fresh scorched meat-skin. Trap will work automatically.

RAY MALCOLM.

Poke Apple-Picker

TAKE a piece of heavy wire, a piece of muslin to make a poke for catching the apples, a handle, four small staples, and you have a cheap and good tool.

First bend wire like the top sketch, then bend in a circle, and fasten to a handle. BLAIR HALL.

Handy Header-Barge



THE handiest thing in a header-barge is a hinged side. It saves a good deal of time in loading and unloading, no matter what the load is. Strap-hinges should be used, and at each of the two upper corners a loop or chain should be fastened with which to hang the side up to the corner post. H. N. KERR.

When you think you have a new idea, just look around and see whose thought it is a sprout from. That's the way we grow bigger and better in this world.

Genasco

The TRINIDAD-LAKE-ASPHALT Ready Roofing "Dead or alive?"

Which has greater strength and resisting power—a dead tree or a live one? Every man who answers that question right knows why Genasco stays waterproof. The natural oils of Trinidad Lake asphalt give Genasco its *lasting life*.

Mineral or smooth surface. Several weights. Genasco comes in rolls ready to lay—no experience needed. Ask your dealer for Genasco. Write us for the illustrated Good Roof Guide Book and samples—free. Ask for the Kant-leak Kleet packed in the roll of smooth surface roofing. It makes the seams water-tight without cement, and prevents nail leaks.

The Barber Asphalt Paving Company
Largest producers of asphalt, and largest manufacturers of ready roofing in the world
Philadelphia
New York San Francisco Chicago

Paint Without Oil

Remarkable Discovery That Cuts Down the Cost of Paint Seventy-Five Per Cent.

A Free Trial Package is Mailed to Everyone Who Writes.

A. L. Rice, a prominent manufacturer of Adams, N. Y., has discovered a process of making a new kind of paint without the use of oil. He calls it Powderpaint. It comes in the form of a dry powder and all that is required is cold water to make a paint weather proof, fire proof and as durable as oil paint. It adheres to any surface, wood, stone or brick, spreads and looks like oil paint and costs about one-fourth as much.

Write to Mr. A. L. Rice, Manuf'r., 68 North St., Adams, N. Y., and he will send you a free trial package, also color card and full information showing you how you can save a good many dollars. Write to-day.

Army Auction Sale Bargains

Army Revolvers...\$1.65 up	Army Tents.....\$1.40 up
Rpt'g Rifles 1.48 "	Swords......30 "
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Saddles... 8.00 "	Gloves, "..... 22 "
Pistols, asst'd.... .50 "	Overcoats.... 2.50 "

Large catalogue with 1912 supplement 388 pages, regular military encyclopedia 5000 illustrations (ready February), mailed 25c stamps. FRANCIS BANNERMAN, Military Goods from Gov't Auction, 501 Broadway, N. Y.

Velvet

THE SMOOTHEST TOBACCO

Look for the Big Red Can

The very next time you buy tobacco, ask the clerk for Velvet, the kind everyone says is "the smoothest."

In the big, red moisture-proof Velvet can there are two full ounces of pure, clean smoking—made from carefully selected middle leaves of choice Burley that have been aged for two long years.

No hurry-up, patent process can produce tobacco like Velvet. It requires time and painstaking care to give tobacco such ripe, mellow perfection.

Don't forget—ask for Velvet and you'll get a big red can of "the smoothest" tobacco you ever smoked.

If your dealer hasn't it, ask him to get it for you from his jobber. No need to write us.

Full size 2-ounce Tins, 10c. 1-ounce Bags—convenient for cigarettes—5c.

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Chicago

FOUR TOOLS IN ONE

A Drill Seeder, a Hill Seeder, a Double Wheel Hoe and a Single Wheel Hoe are all combined in Iron Age, our No. 6. It drills accurately any thickness desired. Shut-off on handle, brush agitator in hopper. Changeable instantly from Drill to Hill Seeder or reverse. Drops 4 to 24 inches, as desired. Changed to Wheel Hoe in three minutes. Is but one of complete line that fits the needs and purse of every gardener. Can be purchased in simplest form and added to as different attachments are needed. It does perfectly all work after breaking up of garden. You should see this tool. Ask your dealer to show it. Write us for special booklets.

Complete line of farm, garden and orchard tools.

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SPRAY Rigs of All Sizes For All Uses

The Leader Sprayer

for up-to-date orchardists keeps 10 nozzles going with 200 lbs. pressure. Most satisfactory of all orchard sprayers. Engine suited to generating power for all farm work. Bucket, Barrel, Mounted 4-Row Potato Sprayers, etc. Free catalogue describes entire line. Write for it. Also spraying formula, calendar and complete spraying directions. Address



FIELD FORCE PUMP CO., 139 11th St., Elmira, N.Y.

THOROUGH SPRAYING MAKES QUALITY FRUIT

—you cannot get it any other way. We make the pump you need; bucket and barrel outfits for little orchards, power machines for big ones.

Deming SPRAY PUMPS

are substantial and durable; brass parts wherever liquid touches; cannot rust. Special valves, making high pressure easy. Ask dealer or write us.

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295 Success Bldg., Salem, O.

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SQUASH

SYMMES' BLUE HUBBARD. Growers give it unstinted praise. Thrifty grower. Keeps well. We mean it when we say "unexcelled." All seed grown on our own farm. GREGORY'S IMP. PROLIFIC. Earliest Marrow Squash and decided improvement over others. Very attractive. GREGORY'S DELICIOUS. Unapproached in dryness, sweetness and rich flavor. GREGORY'S BAY STATE, GREGORY'S VICTOR and GREGORY'S WARREN, varieties favored by critical growers.

OUR CATALOG THE LEADER
Edition for 1912 now ready. Lists the best in vegetable seed, flowers, bulbs, and small fruits.

J. J. H. GREGORY & SON, 43 Elm Street, Marblehead, Mass.

STOKES SEEDS

The time to find out about seeds is before you plant—not after. Get as many seed catalogs as you like—but be sure to write for mine. I'll take a chance on being of some help to you.

Write today and mention Farm and Fireside

WALTER P. STOKES, Seedsman

Dept. 32, Philadelphia

What Sprayer?

Use the sprayer that does the most work most thoroughly at the lowest cost.

Brown's Auto Spray

No. 1 fitted with Auto Pop Nozzle—most powerful and efficient hand outfit. Capacity 4 gallons. For large sprayers—Brown's Non-clog Atomic Spray. Write for low prices and Free Spraying Guide. The E. C. Brown Co., 18 Jay St., Rochester, N.Y.

Save Money on Berry Boxes and Baskets

Fruit and Vegetable Packages
and Growers' Supplies of all kinds.
Write for free money-saving catalogue and price list.

Largest Factory of its Kind in the Country.
NEW ALBANY BOX AND BASKET CO., Box 109, NEW ALBANY, IND.

STRAWBERRY PLANTS

guaranteed as good as grow, at \$1.00 per 1,000 and up. Catalogue Free. ALLEN BROS., PAW PAW, MICH.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

Guaranteed Trees at Wholesale Prices

BUY DIRECT FROM US AND SAVE MONEY
We have no agents and grow our own stock in Danville where scale is unknown.

11 PEAR TREES, 98c.
2 Bartlett 3 Flemish
2 Keiffer 2 Beckel
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All fine, two-year, well matured trees. Carefully selected, fresh dug, true to name, or money back.

Write now for FREE catalogue of complete line.

Belly Bros. Nurseries, 1937 Belly Rd., Danville, N.Y.

Farm Notes

How Much Ought a Dollar Buy?

THAT is the question raised by a group of men in New England. As a result, a new organization has been effected which will put an old principle into practice. Perhaps we ought not to say that the principle is old, for few people are aware to-day of its importance. Mr. A. E. Winship of Boston writes:

"Be your own middleman" is the idea of the railroad employees in Boston who organized the Palmer Coöperative Association on the eighteenth of November.

The organization is the outgrowth of a modest plan of some few railroad men who have been trading for the past year at a certain store on the discount basis. More men sought the advantages and the outgrowth has been an association with almost ten thousand members and incorporated under the laws of Massachusetts with \$50,000 capital stock. It purposes to handle merchandise and foodstuffs of all kinds and thereby reduce the cost of living by the elimination of all unnecessary profits or elements of expense. In laying their plans the organizers have had the professional advice of Louis Brandeis, one of Boston's most able lawyers and public-spirited citizens. The history of all successful coöperative societies has been studied and the long-tried essential features have been adopted, especially those of the English and Scottish coöperative societies, which have been in existence for a half-century and are to-day among the largest business enterprises in the world.

The organization is entirely independent of any society of railroad men, as well as of the officials of the road. It is the result of earnest endeavor on the part of one of the employees. Mr. Frank A. Palmer, to find a method whereby the men would find the purchasing power of their dollars increased. At present membership in the corporation is limited to employees of the New York, New Haven and Hartford Railroad, or of lines under their operation. No man can hold more than one share, all of which are valued at five dollars par, or have more than one vote. Each member has an identification card which he presents with all his purchases at the association store. All his purchases are entered up, and the books are balanced periodically, a pro rata of the profits of the business being credited to the individual, based upon the amount of his business. In other words, he has the profits of all the articles which he or his family have consumed, minus his pro rata share of the cost of doing business. A free delivery system will be established as in other stores.

The advantages of a plan which will assume such enormous proportions as this one promises to be obvious. In buying, the association will deal directly with wholesale producers and manufacturers. The profits of the middleman, which are admittedly the largest profits in almost all lines, will be absolutely done away with. The members of the association who formerly paid fifty-four cents for eggs that were bought by the middlemen in Ohio for twenty or twenty-three cents will now pay much less, and it is conceivable that the farmer will get a better price from the association than he formerly got from the egg broker. The general public will probably find prices somewhat lower at the association store than at other stores, but the members of the association are the people who will really get the big reduction in costs. In fact, the only criticism of the association plan to date is that it excludes many who would gladly join and partake of its manifest advantages.

The plan has met with a most enthusiastic reception on all sides. From employers, wholesale manufacturers, wholesale grocers and farmers there have come words of commendation, as well as offers to furnish capital and unlimited credit. All seem to be interested in what promises to be a possible solution of the ever-increasing rise in prices.

The administration of the plan is a big proposition, and it will probably be three or four months before the store will be in any way ready.

Now, all you people of New England, get in touch with this organization and watch the work being done. Let the producers study the situation. For when all farmers, poultrymen, gardeners, fruit-growers, truckers and dairymen realize the importance of this movement, it will mean dollars to them. The consumer likewise will be happier. This organization is taking the right step toward real coöperation.

Necessity is the mother of invention only for the thrifless and lazy men. Enterprise and ambition are the true mothers of progressive invention, and the right inspiration for new ideas.

Worrying about a fellow's work isn't half as bad as worrying about the work of the other fellow. Let that job out. Tend to your own knitting. You'll get to the toe of your stocking a good deal quicker.

An Elm-Tree Knot

THE quotation "As a twig is bent, the tree inclines" was never truer than is illustrated by an elm-tree owned by Nelson Chapman of Fairfield and on the farm where he lives. This tree has two perfect knots tied in it from the main limbs of the tree. The tree is about six inches in diameter at the base and is nearly twenty feet tall. It is about fifteen years old. It was set out by Benjamin Taylor, being a small tree then, having a crotch in it with two main branches.



Mr. Taylor took one branch, making a knot in it as he would in a string. Then he took the other main branch, making a complete knot, bringing the end of the branch through the middle of the first knot so that not only are there two knots, but each is around the other. The tree is a thrifty one and shows a thrifty growth. The knots are holding their shape, and form one of the greatest curiosities that can be found.

JOHN E. TAYLOR.

Androscoggin Coöperation

FOR several years Androscoggin Pomona Grange No. 1 has been "talking" coöperation. During the fall and winter of 1910 a committee was appointed to make plans for definite action. During the spring months several meetings of the committee were held, and finally in the early part of September, 1911, the plans were completed. The general committee signed articles of agreement and formed a corporation under the laws of the state, called the Androscoggin Patrons Coöperative Association.

Stock was sold sufficient to buy a stock of goods. The plan of organization was that only Grange members could be stockholders. A store was secured in Auburn and goods bought. Joseph S. True has been hired as manager, and his pay is on a percentage basis. The goods in the store consist of fancy and staple groceries, grain, feed and flour. Later it is planned to add hardware and other things. On the basis of the amount of purchases by the stockholders a dividend will be paid every six months. This plan was adopted rather than selling to stockholders at a margin of profit above cost to pay expenses. The reason for this is that we are in the midst of a lot of competitive stores, and as soon as we should commence what they call "cutting prices" they would unite against us. We strive to maintain a fair price for everything, as this also helps to keep up the prices of farm goods. We also have a good trade among non-stockholders who get no benefit except the guarantee of strictly fresh country produce.

The produce of the farm is taken at the store in as large quantities as needed and in turn sold at retail. Later it is planned to handle car lots of farm produce from our stockholders and ship them direct to the larger centers. We shall soon put in a good stock of fertilizers and all kinds of field and garden seeds. Another plan is to deliver car lots of feed, flour, sugar, fertilizers and all other farm necessities to our stockholders who are not near our store at Auburn.

The last two seasons the cow-testing associations in Androscoggin County have joined together to buy feed and fertilizers.

Some of the members of the Grange have shipped to and from the Producers and Consumers Exchange at Boston with good saving both ways. A car lot shipped from the town of Minot recently netted fifteen cents more per bushel than locally.

A new coöperative association has been formed in part of Androscoggin and Oxford Counties. This is the "Oxford Bears Fruit-Growers' Association." The results they have attained this fall are shown in that they have sold their apples at over a dollar a bushel more than any other growers near here. One of their officers is the selling agent, and he has accompanied their shipments to market. They have shipped a few boxes in specially made cartons holding just a dozen apples. These are for the fancy trade and they take well. At the fairs and at the fruit and corn show at Portland and

at the Maine State Pomological Show at Augusta they took all of the biggest prizes.

A prominent farmer said the other day he believed the only way the farmers would ever unite in such associations would be to unite in small units. When these are well established, larger ones will be formed.

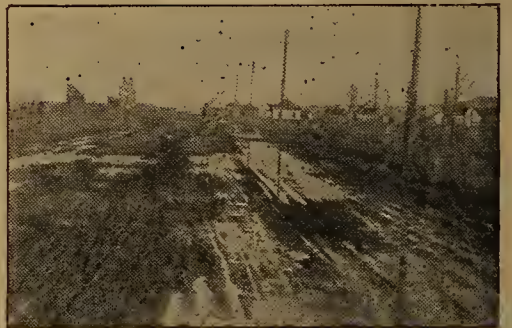
V. E. CANHAM.

Holding the Sack

HIGHWAY improvement is being discussed in every community in the country. Farmers, too frequently slow of interest in what most concerns them, are waking to a realization of just what they are losing through the poor condition of their roads. In other words, and to get at the point without delay, the American farmer has been "holding the sack" with a firm and unyielding grip. There has never been any excuse for poor and inadequate highways, and there never can be any. It hasn't been solely a question of money, because every taxpayer knows that his county has collected sufficient funds to make some kind of a showing on the roads. I say there has never been any excuse for this condition, but there has been a cause, and the cause is nothing else than the indifference and unprogressiveness of the road-user.

In this day of business aggressiveness, there exists a competition not only between different individuals, but between different communities working in the same field of endeavor. Take farming, for instance. First, we had the improved machinery, then scientific cultivation and crop rotation, and now it is transportation. Every man who tills the soil must sell his produce at a profit. To do this he must have such facilities for delivering his crops that will enable him to compete with his neighbor in time of delivery as well as in price. And it must be remembered that the time of delivery often regulates the price. The finest soil in the world is absolutely worthless for farming purposes unless the crops can be economically marketed. The question of highway transportation affects probably more people than any other economic problem of to-day. Every man in the country pays a bad-road tax—whether it be in increased cost of foodstuff, decreased profit, or loss due to breakage of vehicle.

As an illustration: I had occasion at one time to visit a farm in southeastern Missouri. I was surprised to find an excellent peach-orchard, the trees heavy with fruit. Even the ground was covered with fallen peaches. But what astonished me was the fact that absolutely no effort was being made to save the crop. Hogs had been let into the



This road leads directly to a city of ten thousand

orchard and were eating the fruit as it fell. Upon inquiry, the farmer told me that, because of the impassable condition of three of the fourteen miles of highway between his place and the nearest market, he could not afford to haul his peaches. Hundreds of bushels of valuable produce—of a kind that people would buy readily—were rotting and wasting because of poor roads. His bad-road tax was his loss, but I paid mine in excessive prices charged for similar fruit due to its scarcity.

And so it goes. The farmer, while he is not the only loser, is perhaps the one most affected. I have never been able to understand why a farmer should be opposed to an improvement of the highways. Consider for a moment what better roads mean to him. First (because money considerations usually come first), there is the almost immediate increase in property values. This increased value is not a myth, it is a fact. Why, your own judgment will substantiate that statement. You will pay more for a farm on a good road than for one on a poor road. Therefore, the improvement of that road must have increased the farm's value in your opinion. Furthermore, ten ten-acre tracts will be far more valuable than one one-hundred-acre farm. But the value of a small tract is dependent upon the ability to market such perishable and special crops as may be grown there. Again, good serviceable highways increase the number of suburban residents; and a few acres of ground is worth much more as a home than as a farm.

Consider, also, the improved social conditions that attend the improvement of highways. There is the opportunity for social and educational advantages that can hardly be overestimated. There is immediately presented the elements of pleasure and diversion that is absolutely essential to right living.

I have mentioned the advantage of timely crop hauling that means a more even and

uniform market. Think, too, of the choice of market that is often presented. The nearest town may not mean the best prices. Because hard roads permit of heavier loads, the number of loads is reduced and the cost of hauling is less. For the same reason the loss due to breakage and wear and tear on horses and vehicles is also less. I might go on indefinitely, noting the advantages of good highways. But let us devote a moment to a discussion of the means to this most desirable end.

In the first place, because highway improvement costs money, there must be adopted some method of financing the project. Usually, the money derived from the ordinary road and bridge tax is wholly insufficient for a proper improvement. The custom of private subscription or donation is not economical and not fair. Poll-tax road-building is practically worthless. The right way to build highways is with borrowed money—by issuing bonds against the community benefited. Every up-to-date road law provides for this method of financing. True, the interest on these bonds makes the improvement cost more than were the cash available. But even at that a wisely chosen district properly improved will show a most unusual return on the investment in good roads. This return will be in increased property values; but it will also be in decreased farm expenses and increased farm profits. Furthermore, it must be remembered of the entire amount spent for highway improvement eighty per cent. goes immediately to the men who pay the tax, for labor, material, etc. In other words, by voting a hundred-thousand-dollar bond issue for roads, you vote to take one hundred thousand dollars out of the bank and put nearly all of it in immediate circulation in your community.

Necessarily, a comprehensive and satisfactory improvement of the highways assumes careful planning and competent supervision. No individual or corporation would consider a large expenditure without assuring a businesslike management of the project from its inception to its completion. And so it must be with the county or special road district. The problem presented requires the study of men trained and experienced in the business of road-building. And these men are worth all they cost. They are able to give you the benefit of the training and judgment acquired through years of study and practical experience. The gross indifference of the road-user is evidenced by the fact that he has so long permitted incompetent men to mispend his road funds. The money that has been wasted, and grafted through the ignorance and negligence of unqualified highway officials in your state, would build miles of good roads and leave enough to assure excellent supervision. In many states that call themselves progressive, even now the actual expenditure of road money and the actual building of roads devolves upon men who are usually unfitted for the task and are too often mere tools in the hands of their political supervisors.

Assuredly, the time is right for the taxpayer to investigate this question of highway improvement and management. He is putting up the cash, and he should know that he is getting his money's worth. But this interest must originate with the taxpayer himself. Before the road conditions can be bettered, the road-user must express a desire for the improvement. You men who hold the sack, why not look within it? JNO. N. EDY.

Large or Small Farm, Which? For the Man Who has Little Capital

How much indebtedness can one safely incur in buying a farm? is a question often asked through the farm press. It comes mainly from residents of towns and cities who have some spare cash to invest in a farm, but not sufficient to cover a cash investment. The answer must be based according to the man and the character of the farm to be bought.

Pertinent to this query comes another, "Why is it that a mortgaged farm is hard to sell?" So the nature of the farm has something to do in the matter. Some men, real hustlers and systematic, might buy even a run-down farm heavily mortgaged and yet pull through, while others with less encumbrances would fail.

Hence an answer to our query at the head of this article should be based on the general average of men's characteristics, together with the average farm-lands to be purchased. Observations for a series of years past taken from actual transactions have led us to believe that no man can incur a greater indebtedness than one-third the value of the farm and pay out.

We know one place that has changed owners four times in the last twelve years because of inability to pay off an indebtedness of less than one-third the value of the farm, and the land is good. We know another that paid interest for twelve years without meeting one dollar on the principal, and his land was extra good.

If banks will not (because they say they cannot) pay more than three or three and one-half per cent. on deposits, how can a farmer pay six, eight or even ten per cent. on his farm? Our city corporation borrows money at one and five-eighths per cent. and

thinks that burdensome. How about an indebtedness on the farm, say at six per cent.?

In buying a farm, the encumbrance must be considered along with several other things: cost of production, cost of living, taxation, improvements to be made. In Indiana taxation is from two and one-half to three per cent., on one hundred dollars. Combine this with a six per cent. rate of interest, and then considering the other items above noted you see that to assume a greater indebtedness than one-third of the value of the farm is risky.

As to buying a mortgaged farm and assuming a greater risk than one-third of its value, we consider that the buyer will soon be on the market for another purchaser. Why? Because a mortgaged farm will run down, both in fertility and price, because the land must year by year be overtaxed in cropping to meet obligations, no time for rest, no time for clovering or rotations, one crop system in cultivation and that either corn or wheat.

No improvements can be made until all urgent financial demands are met and the culmination is a run-down farm which, if it goes on the market, is sacrificed at a loss. Other things are also to be looked after. High-priced land means high taxes, and heavy interest on such lands means failure. Prices of products are not governed by prices of land. Here in Indiana farms bring from one hundred dollars to one hundred and twenty-five dollars per acre, but corn is no higher, than it is in states where land can be had at forty to fifty dollars per acre; and to pay interest on such land under such conditions is risky in the extreme.

A far better plan for the city man who wishes to invest in farm-lands is to buy for cash less acres and retain enough of his surplus to tide him over till he has some income. Then he has nothing to fear.

Two cases of this kind show in a clear manner the wisdom of this course. In an adjoining county a farm of 240 acres, that was under an indebtedness too great to bear and in consequence was greatly run down, was purchased by a young man from our place for cash. He then expended several hundred dollars in ditching and other improvements, and this year his crops of wheat and corn, together with his clover-fields, have paid him more than the farm had paid its former owner in ten years, and this farm to-day would bring nearly treble its purchase price.

The other similar in character is in Tipton County, Indiana. A farm of eighty acres completely worn out by overtaxing in cropping was bought for thirty-seven dollars cash per acre, and after five years of building up the owner had brought it up to such a high state of fertility that he sold it for \$110 cash an acre.

So we conclude as we began: Unless the man can pursue a judicious system of farming in all its various details, he better keep close to shore in the indebtedness line. One third may be assumed with reasonable safety, but one half without doubt is too risky. Even with side-lines to aid one cannot feel safe. The history of the panic of 1873 in this county would furnish evidence by the volume on these questions. So consider well every surrounding before venturing into unknown seas. J. H. HAYNES.

EDITOR'S NOTE—Experiences in intensive farming seem to suggest small farms and intensive farming to the man with small capital to invest. Thus the item of land values is reduced as compared with labor—and brains take the place of area. The demand for small tracts of ordinary-priced land under such conditions would greatly increase.

Stick to the old system of setting fence-posts just one rod apart. You can't stretch more than that distance without greatly weakening the strength of your fence.

Silage and Prosperity

DURING a fourteen-mile drive through a prosperous portion of one of our most prosperous prairie states, I saw only two silos.

On every hand, however, were herds of cattle just out of the winter barns. These were, with only two exceptions, thin and unthrifty. The two exceptions were upon the two farms where I saw silos.

The reason for this neglect on the part of so many farmers is beyond me, especially when in many instances the owners themselves still live upon the farms. There is now nothing of uncertainty, nothing mystical about this silo proposition. To-day the erecting and filling of a capacious silo is as reasonable and as businesslike an undertaking on ninety per cent. of America's farms as the filling of the hay-loft or the corn-crib.

If the farmers who fail to realize the value of silage and silos could be forced to eat only pork and potatoes all winter, and prevented from going to the cellar and getting apples, cabbage, turnips, fruits, spices and all those relishes we store in our cellars for winter, they would realize the condition in which spring finds their cattle. Every dollar a farmer makes feeding either his growing heifers, his milking cows or his fattening cattle without the aid of a winter silo could be doubled or tripled with one acre of country.

The Rural Mail-Carrier

OF ALL the faithful fellows
Who serve your Uncle Sam,
From Chilkooot dcar to where they rear
The mighty Gatun dam,
There's none more true and loyal
On any road or trail
Than he who makes his round and takes
The country folk their mail.

His work is hard
His pay is small,
He mustn't bluff,
He mustn't stall,
He makes his route
—That's all!

When roads are wet or dusty,
When days are foul or fair,
Or cold or warm, from farm to farm
He has the mail to bear.
No "reasons" may excuse him,
There's no such word as fail.
Winter and spring he still must bring
The country folk their mail.

The route is long
When winter's pall
Is on the land
And snow-flakes fall,
But he "goes through"
—That's all!

He's not a brilliant hero,
There isn't any chance;
His rig and pace would quickly place
The kibosh on romance;
And yet as men are measured
He figures up to scale;
Without a kick he does his trick,
And brings the folks their mail.

His job is hard,
His pay is small,
But winter, summer,
Spring and fall
He does his work
—That's all!

BERTON BRALEY.

Wild Parsnips Poisonous

I AM asked whether it is true that the roots of parsnips that came up as "volunteers," from seed scattered by parsnip-plants left in the ground from the year before, are poisonous. No, it is not true. Volunteer plants of parsnips that have the chance to make good roots are not likely to turn poisonous. It is reported, however, and probably true, that parsnips, or plants similar to parsnips, that have long run wild in fence-corners and similar places, have shown toxic effects. But why should anyone use wild roots without succulence and without quality when it is comparatively easy to grow good parsnip roots in the garden? Only be sure that you sow fresh seed. Parsnip-seed when even one short year old is sure to disappoint you. T. GR.

There is much more honor in being a good man at the plow than being a poor one at politics.

If too many of us were not in too big a hurry to get rich and make a splutter in the world, we might all get along more smoothly, accumulate fully as much in the end, and feel a whole lot better over it.

An 1896 Silo

WE BUILT on our farm, in 1896, a 300-ton round silo with continuous doors from top to floor. It was studded up and down and sheathed on inside with two thicknesses of one-half-inch hemlock, with tarred felt between. The outside was boarded the same, papered and sided with rabbeted siding.

Our doorway was double studded and bolted across with one-half or five-eighths rods every sixteen inches (I think).


The inside boarding came to within about one inch of inside edge of door studs, and the doors were made out of eight-inch boards doubled with paper between and overlapped each other two or three inches.

I had these piled on shelves or brackets by the side of doorway, and, in filling, put them in as the silo filled, and the corn held them in place. F. L. McELHENNEY.

Worthless Wire and Nails

STATEMENTS are published to the effect that ten years ago it took two bushels of corn to buy one rod of fence, where now one bushel buys two rods. There is no argument at all for excusing oneself in having poor fences, as corn is worth enough more now to more than cover the difference. But even if this were not the case, the farmer had better by far have things as they were ten years ago (as regards fence) than what he gets now. This new-process Bessemer steel is the worst thing that was ever put on the market, as it is utterly impossible to make a fence (or any other article out of it) that will last more than five or six years. I will now give a few of my experiences to prove my statements.

About fourteen years ago, though not twenty or thirty rods of poultry-netting, it has been taken down and moved and put up



Horse Story

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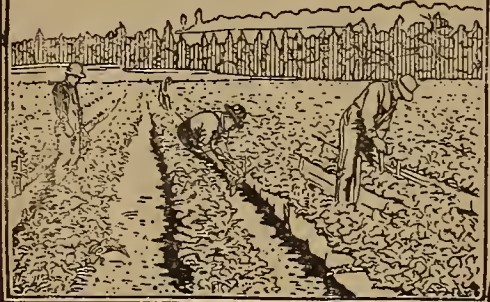
The upper view shows how groups of big stumps are blasted out clean at one time, with all dirt off the roots and stumps shattered into kindling wood. At the same time the subsoil is thoroughly broken up, creating a fine home for the new crop. Lower view shows a celery crop worth \$800 per acre ten months after stumps were blasted out.

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again three or four times during this time, which is the hardest test on a woven fence, as it tends to crack the galvanizing. This fence is better, to-day, than some my neighbor put up five years ago. Mine is made of iron, his of Bessemer steel. I also have forty rods of four-foot field fence that I put up six years ago. You can pick it all to pieces now, it is that rotten.

Now, in regard to nails, you get the same results there. Years ago, when we got the old iron nails, shingles would stay on twenty-five to forty years. With the steel nails no such results can be expected.

Of course, I realize it is the people's fault to a certain extent. They have always been too willing to purchase a cheaper article. I think the majority of them see their mistake. Better by far pay the old-fashioned price for the old-fashioned article than to do all the hard work over and over every five or six years.

H. C. BUSHNELL.

Parcels-Post Progress

BOTH senators from Ohio have declared themselves in favor of parcels post, and expect to support parcels-post legislation. Consequently, we should work on our district representatives to line them up on this measure, find out how they stand, and get them interested and at work in support of general parcels post.

Brother Farmer, they will need your vote real bad next fall. Now is the time to write to them and tell them that inasmuch as all legislation is compromise, that if they will give you their vote and support for parcels post, they may depend on your vote and your support next election-time.

A direct line from a member of Congress tells us that we will not get parcels post this session unless we put on the pressure and get the farmers to work for it. It is being squeezed out by tariff talk and the money question. If we want it, we must write in and make our wants known.

Do get out your pen and grind out a letter to your congressman, and let him know where you stand on this matter.

Make it to the point. E. M. RODEBAUGH.

Chestnuts

What are They For?

I AM asked by a subscriber of philosophical mind what are the small "wartlike" growths on the inside of each leg of the horse—what are they made of, and what for? Why do horses have them and not hogs, cows and sheep, etc.?

These growths are a horn-like plate made up of strong cells or tubes much like the hoof. No one has as yet made known to the world what their use is. Not all horses and mules have them, and they are much smaller in the highly-bred animal than in the coarse, unimproved breeds. The mule has smaller ones than the horse. It seems that they were created in the prehistoric horse for some unknown purpose, and domestication and improvement in breeding is slowly extinguishing them. Cattle, sheep and swine do not have them, for about the same reason that horses don't have horns like a cow wool like a sheep and a squeal like a pig: The Creator doubtless did not wish to have all animals look alike. C. S.

Don't Let It Explode

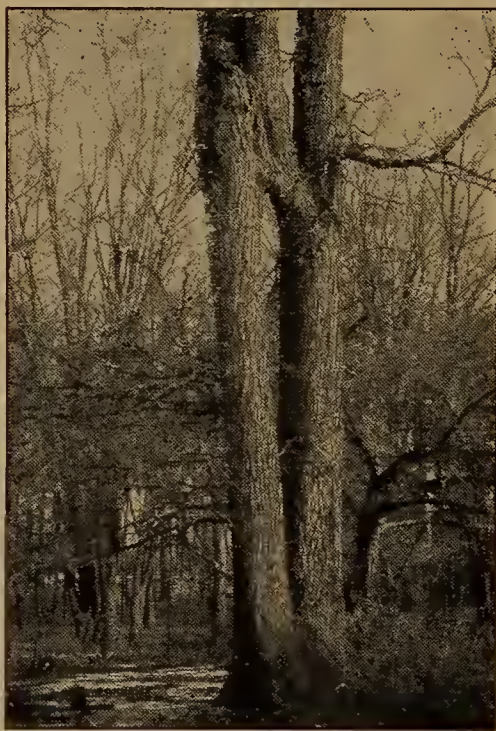
A LAMP or lantern explodes when the oil in the oil-reservoir is heated sufficiently to cause it to pass into the form of a gas. This gas formed in the reservoir is ignited as it fumes out through the burner and comes in contact with the blaze. The explosion of a kerosene light is almost always due to dirt and soot collected on different parts of the burner and on the top of the oil-reservoir. This dirt, when saturated with oil, makes a very effective medium for the transfer of heat from the blaze to the reservoir. By virtue of its dark color the dirt absorbs the heat rays of the blaze, instead of reflecting them, as do the bright colored parts of the burner. This fact, together with the dirt's high power of conductivity of heat, is the cause of the resultant high temperature.

Lamp and lantern burners are made of brass, because that material is a poor conductor of heat. If a kerosene light is kept clean, it is quite certain not to explode.

A good way to clean the burners is to boil them in strong soap-suds and then brush them with a stiff brush. The lantern-frame should also be boiled occasionally. Shot can be run through the ventilating tubes to remove the dust. MONROE CONKLIN, JR.

Freak Elm-Tree

IN RIVER FOREST, about two miles west of Chicago, stands a giant freak elm-tree. Or what might be more appropriately called a "Siamese twin" tree. It is vigorous, healthy and is apparently the growth of several generations of men. It starts from the ground from a common root, from which it forks into two immense straight trunks which extend to a height of about thirty feet, at which point the two trunks unite and form a single tree with the graceful fan-shaped top of the ordinary elm.



This tree has long been regarded as a great curiosity and has been visited by many people. It stands in the midst of a primeval forest, a towering landmark high above the surrounding hawthorns, elms and maples.

What caused this strange growth has been a puzzle to many people. Possibly a projecting limb from one branch or trunk of the tree grafted itself upon the other trunk, forming the freak ligament or fibrous bond that unites them. EUGENE J. HALL.

Contact Points

IF THE contact points in your gasoline-engine sparkler get sooty, or do not work satisfactorily, take them out, and make new ones by cutting a ten-cent piece in halves, hammering each half to a round shape, then driving in place. I had copper contact points in my engine, and they were continually gathering soot. I have some silver ones in use now, and they are giving entire satisfaction. Have used them over a year and have never cleaned them once. RAY MALCOLM.

A Machine-Shed?

WE HEAR much about the machine-shed and its advantages, but here's the other side. Live where there's close to fifteen inches rainfall yearly and where a poor man can get a start with about \$1,000. Tools cost from \$200 up, owing to their newness and the number bought. These tools, farming the way we now do here in Nebraska, will tend from a quarter to a section of land. This is a case of not having the price—the shed is worth more than the tools. Now, I don't advocate not having a shed, but there sure isn't the inducement to have one when a machine runs for eight, ten or more years braving it, while idle, in the "Big Shed" and still sells for a fair price, say one fifth the original price. Perhaps this is entirely a local case, but it shows one exception to a rule often laid down. C. BOLLES.

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The Canadian Pacific R. R., with its ocean-to-ocean trains, gets Tubular cream for its dining cars from Mr. J. McFadyen, Park-beg, Sask., and both the R. R. Co. and Mr. McFadyen profit from velvety Tubular cream.

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for the keenest, best informed dairy-men everywhere. They know they must have Tubulars to get perfect cream and to get it all. Disk-filled or otherwise complicated separators lose cream, spoil its quality and give what is termed a "metallic" or "disky" flavor to it.

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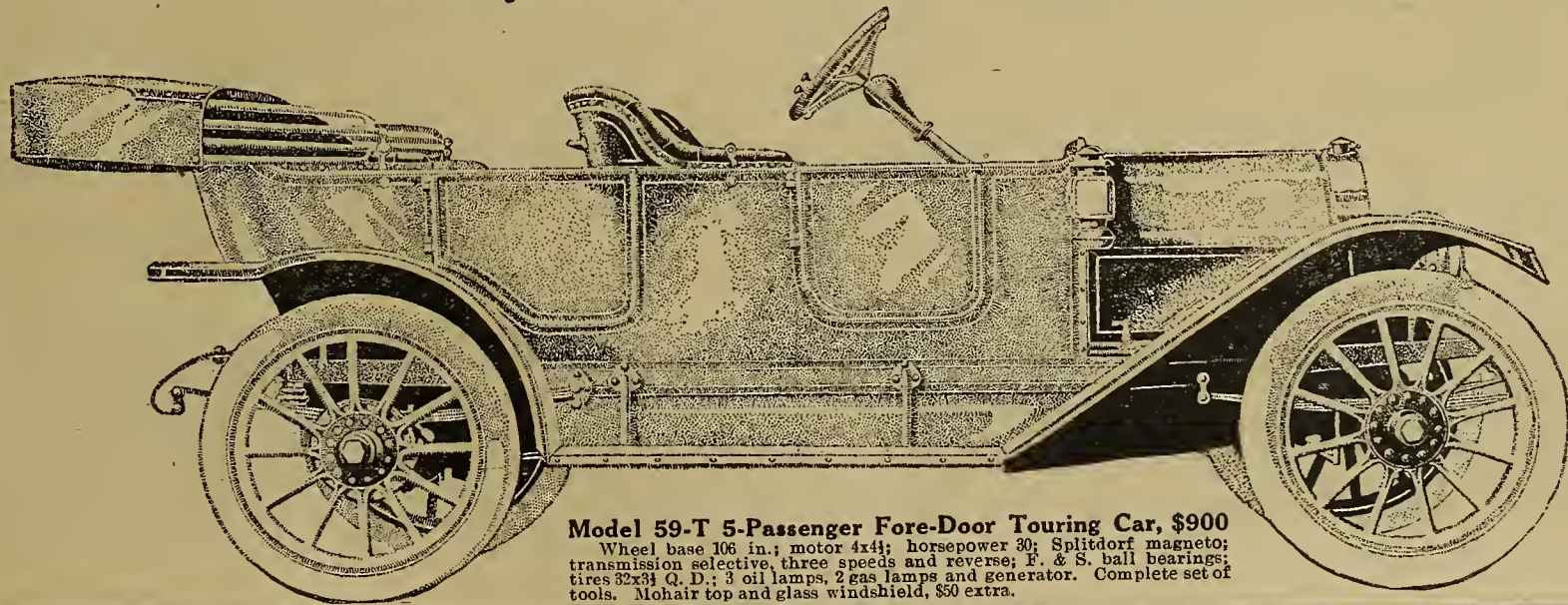
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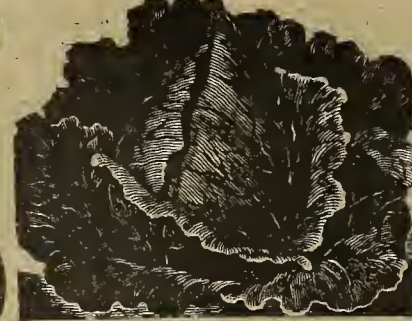
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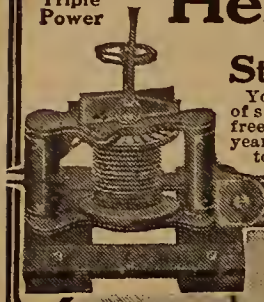
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Sound Gun Advice

DURING the winter months thousands of men and boys will carry guns on hunting expeditions. A gun is not dangerous in the hand of a careful man or boy, but it is a deadly instrument when used by a careless person. Here are some rules I have followed in using a gun, and I believe they are worth passing on to others:

1. Always carry the gun with the muzzle pointing to the ground or into the air. If it goes off unexpectedly, the earth will catch the load or the clouds be penetrated by it, instead of your dear friend or relative.
2. Never carry the gun with hammer raised. Game must get away if I cannot raise hammer and fire quick enough to bag it.
3. Never get over a fence and pull the gun through, muzzle forward, after you. Many a man has lost his life by so doing.
4. Never raise the hammer of a gun when pointed horizontally. One of my acquaintances did that one day while hunting birds, and he shot out his neighbor's eyes. He now lives with the thought that he is responsible for his neighbor's blindness.
5. Don't set a loaded gun down where there is danger of it being knocked over. A dog, a pig, a cat, or even a child, might push it over and cause it to go off and hurt someone.
6. Never shoot at game when it is in close range of stock, barn or house. Many a farmer has lost stock, killed by a careless shooter.
7. Always unload the gun before bringing it to the house. A member of the family might think it unloaded and playfully and unintentionally kill someone. The "unloaded gun" is the one that kills.

W. D. NEALE.

Make good use of the first suitable day that comes for storing ice; it may be the last one this winter.

Rural communities are glad to get rid of some of the folks who are drawn away from them by the lure of the city.

The right time to clean a machine is not when you are getting ready to use it, but when you get through with it and start to put it away.

The Way the Wind Blows

THE following extracts may be regarded as straws tending to show the way the wind is blowing with respect to the sheep outlook till spring:

The *Stock Growers' Journal*, of Miles City, Montana: "Ludolph and Fields have thirty car-loads of sheep ordered from Miles City over the Milwaukee on Thursday, November 23d. This is the last shipment for the season."

Clay, Robinson & Co.'s Live Stock Report: "There will not be the big run of sheep from Wyoming next year." They quote from a correspondent: "We had to ship out almost all of our stock because of scarcity of food."

J. P. R.

Mink, Skunk and Muskrat

How and Where to Trap Them

By David E. Allyn

THIS is best told as we describe the ways or places we find to set the traps in. As we have already said, mink are great rovers, consequently more ways of HOW and WHERE to catch him can be employed than for any other fur-bearing animal. One thing must not be forgotten—always set your trap at the place described in this article, JUST AS DIRECTED, and you will make a successful catch.

First, I will describe a few ways of trapping the mink: Find where mink travel



along the bank of some stream, brook or rivulet, observe where the tracks are most numerous, and if near a steep bank, if only a foot high, make a hole in this bank eight or ten inches deep, straight in from the level ground and low enough down so water will just come up to it but not flow in. This hole must be

about three or four inches in diameter. Put a piece of bait in the back end of it (muskrat flesh is best), and directly in front of this hole in the edge of the water make another hole one and one-half inches deep just the size of the trap, with a place at one side for the spring. Place an old wet leaf or two in the bottom and set the trap in this "nest" so the jaws are just level with the ground surface, and place a wet leaf over the treadle or pan. Now on each side of the trap stick up a few old weeds or dry sticks to form a pen about six inches wide, eight inches high—above water—and extending back to the bait hole. Get some weeds, and place them over the top, and cover with overhanging grass if such is there; if not there, get some, and hang it as natural as you can, leaving the entrance to the trap open. Stake the trap chain back as far as it will go in the water, and in as deep water as possible, so the mink will drown as soon as caught, which is not only humane, but will also prevent its escape by gnawing its foot off.

Another good set in trapping mink is: Find a small ditch, a foot or so wide, which



enters the main stream; if the banks are grassy, so much the better. Now find a narrow place, and make a "nest" hole for the trap, as in the above. If there is no water in the ditch cover the trap lightly with fine grass. Now stick up a few weeds or dry limbs on each side of the trap, leaving an entrance just as wide as the trap, the stakes extending each

side of the bank; over the trap and across from bank to bank lay weeds and sticks, first putting some bait on the one directly over the trap, and cover all with fine grass and leaves found there. Draw the chain to one side of the ditch, and fasten with stake or drag.

A railroad culvert, or a culvert across a ditch or brooklet on the farm is a splendid place to trap mink. Just see the mink tracks under there—a regular path on one side. Make a "nest" close up to the wall of the culvert. Set the trap, and cover it with dry stuff you find there. Find a piece of old board eighteen inches long and a foot wide, nail some bait near one end—the top end—and lean it up against the wall so the bait will be directly over the trap and on the under side of the board. Fasten the trap to a brush drag. This is a good set to make when the water is frozen.

Here is a spring hole. It never freezes here. Set your trap in the edge of the water. Make a bait hole in the bank by it, and put some bait on a stick having a fork, to prevent it being pulled off, and push it back in the hole, thrusting the stick firmly into the ground. Drive a few stakes on each side of the trap about six or eight inches apart, so the mink will have to pass between them and over, or on the trap to get to the bait.

Here is the end of a tile ditch. Make a "nest" for the trap back six or eight inches from the hole in the tile, and set the trap in it and cover lightly with fine grass or small leaves. Fasten some bait in a hole just under the tile—not in the tile—and make some kind of barricade on each side of the bait so the mink will have to pass over and on the trap to get at the bait. Secure the trap to a drag. Mink can be caught here all winter.

Skunk are about the easiest trapped of all the fur-bearing animals, and are always found about the farm. They usually live in holes in the ground and in holes under old stumps and in the side of uncultivated hills, usually on the north and northeast side. Their dens can be easily found and known by the amount of large, round, long and dark-colored droppings at one side of the entrance. Also by the well-beaten paths leading to the den, sometimes from several

directions. A few traps "nested" in these paths a few feet or yards back from the entrance to the den, and fastened to a drag at one side of the path, will be sure to make a catch. Sometimes a cubby or house of sticks, stones or sod is built close to one side of the path in which bait is placed and the trap is set at the entrance and lightly covered and fastened to a long pole which can be used in carrying or "walking" the skunk to a pool of water where it can be drowned, thus preventing the discharge of the disagreeable odor. Most any kind of fresh meat is bait for a skunk, even a piece of skunk flesh. Muskrat flesh is excellent bait.

Never approach a skunk in a trap like a Dago chasing a Turk, or there will be "something doing," and you will wish you were at home with ma right away. Go up to it gently, like a bashful boy approaching his sweetheart to steal his first kiss, stopping occasionally to make sure all is well, until you are within a few feet—four or five—and then squat it with your club right on top of the head, and step back a few yards quickly and leave it alone a few moments while it dies, and no bad results will follow. In skinning a skunk, cut the hide down on the inside of the hind legs from the foot to and around the vent and scent-glands (a lump each side of the vent) and up the other leg, then skin around the legs and over the back. Now place one hand, with the thumb and forefinger straddling the tail-bone, and the other hand holding the skunk, and pull out the tail-bone, then proceed to peel off the skin the same as skinning a mink. Remove all particles of fat and flesh, and wipe out all grease with an old cloth before stretching.

There are many ways of trapping muskrats, one of the most successful being at their slides, just where they enter the water. A trap placed at the foot of the slide or

path in an inch or two of water and staked as far back into deep water as the chain will reach is sure of making a catch. A projection of the lower part of a bank out into the water affords a stopping-place for the muskrat when traveling along the shore. A trap carefully set on this, just where the muskrat stops to leave its droppings, will make a catch every time. An old log or plank lying in the water makes one of the best places to set muskrat traps. If a log, cut notches in it to fit the trap when set, and staple the trap fast to the under side of the log. Drop a few bits of apple, carrot, or grains of corn, or even pieces of the flesh of the muskrat, around the trap, and you will make the catch more sure. If a board, nail a few cleats on it at intervals of two or three feet, just wide enough apart to admit the trap between them, set the trap, and bait the same as on the log, stapling the trap to the under side of the board. At the houses in ponds you will notice water roads (path under water) leading to and from the house in several directions. Traps set in these paths under the water a few feet back from the entrance to the house will always make a catch, and if the water is a foot or more deep and the trap securely staked to one side of the path, the muskrat will drown as soon as caught, thus preventing suffering or gnawing its foot off and escaping a cripple. Traps can also be set in the entrance to the house and make a successful catch, but this is not advisable because other muskrats will fight the captured one, sometimes tearing its hide into shreds and rendering it of no market value.



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Every hunter should know all the Marlin characteristics. The Marlin Firearms Co. Send for our free catalog. Enclose 3 stamps for postage. 26141 Willow Street, New Haven, Conn.



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Don't think because your grandfather cut wheat with the cradle or your grandmother did the family knitting by hand it is sufficient excuse why you should be content with all your present implements and household utilities.

The advertising columns of FARM AND FIRESIDE every issue contain announcements of new inventions and devices which would save you much labor and thought. The outlay of money in proportion to results obtained is exceedingly small.

Just look them over, and and see how many you could use to advantage.



The FARMERS' LOBBY.

STATISTICS presented in the packers' trial the other day indicate that they make only three cents a carcass on the meat they kill. It is explained that their profits come from the by-products formerly wasted—the blood, hair, bone, etc.; from fertilizers, glue, and the like.

So we who are not captains of industry are expected to bow down in recognition of their superiority, for they have saved the parts that formerly were not used, and turned them into profits which, duly capitalized and exploited, have brought these masters of meat into control of the world's markets.

That may be worth looking into. When I was a boy, the straw-pile was a great institution, but it was not supposed, on the whole, to have any especial commercial value. In the spring we were permitted to go out and burn it; and great was the illumination! No Fourth of July doings nowadays compare with the noble spectacle of one hundred acres of wheat-straw in full burst of flame, on a fine dark-of-the-moon spring night. That was the real utility of the straw-pile. It was worth just what the hair and intestines of the hogs were when we had "hog-killin'" on the farm.

I sold last fall fifty tons of wheat-straw, baled, for eight dollars a ton cash. There was demand for three times as much.

By-Products Turned Into Fortunes

Now, what I am getting at is this. The packers have utilized the by-products and turned them into money. They ask us to concede that the special skill, shrewdness and business sagacity of this warrants their control of the meat-supply of the land, live-stock and dressed-meat prices, and the biggest food monopoly that has been known since Joseph of old Egypt stored away the surplus of the seven fat years, and fed Pharaoh's pyramid-builders during the seven lean seasons.

But they haven't begun to save as much out of the steer's carcass as the last thirty years have taught us to save out of the straw-pile that we used to burn! Talk about the by-products representing the profits of the meat business: why, that fifty tons of straw from my wheat last fall represented a good deal more than the profits on the whole transaction. The wheat brought ninety-three cents; and a rough calculation, including allowance of eight per cent. on the value of land, cost of seed, fertilizer, labor, depreciation of machinery, etc., leads me to the conclusion that the wheat, aside from the straw, was raised at an absolute loss. I have put the interest at eight per cent. because the Maryland public service commission recently opined that money invested in telephone, gas and like services in Maryland cities was entitled to eight per cent. The farmer ought to be entitled to as much—though he mighty seldom gets it.

But I don't notice anybody capitalizing us farmers into a billion-dollar trust just because we got smart enough to use the straw-pile instead of burning it.

Yes, you are going to object that the logic is bad, because grandfather would have sold his straw for eight dollars a ton, if anybody had been ready to pay it. Certainly he would. The straw couldn't be sold until there was a buyer. Neither could the by-products of the carcasses. When a sufficient advance in intelligence made it desirable and possible to save the by-product, why, it was saved.

In short, it doesn't occur to me that this by-product argument gets far as a justification of the existence and power of the meat trust. If there is a trust, and if it makes the prices on both live and dressed meat, then it will have to find a better excuse for existence than the plea that it has done just what every other industry has been doing in modern times and conditions.

Is There a Trust?

IS THERE a trust? The government has been bringing out some very pointed testimony tending to show that there is. It has been testified by employees of the packers, that prior to 1903 the big packers conducted a pool, through which they divided territory, assigned to each concern a stated amount which it could ship to each competing point, penalized any packer that shipped more than the amount assigned to him and agreed on margins of profits that should be required in selling their products.

In 1903 the National Packing Company was organized. Before the end of the trial we shall know more, doubtless, about it. But there is some evidence to show that

The Feeder and the Packer

By Judson C. Welliver

it bore the same general relation to the packers' combination that the Temple Iron Company bore to the anthracite coal combine. The story of the Temple Iron Company is illuminating right here.

A group of big coal concerns wanted to coöperate and escape jail for running a trust. So they formed the Temple Iron Company, which owned some coal-mines. Each concern in the combine had a director in the Temple Iron Company. These met and talked about their own business. They agreed on the prices the Temple Iron Company should demand, they discussed market conditions concerning the business of this little company. But, in fact, the government proved that they met for the purpose of agreeing on the whole volume of the anthracite business. What they did was supposed to bind the Temple Iron Company only, but when each director went back to his other company's office, it was perfectly easy for him to say:

"Temple Iron has decided to cut its production ten per cent. and raise the price five cents. Seems to me a good thing; glad we know what they're going to do. We'd better do the same!"

If they all did this, obviously the whole lot of them would adopt an agreed policy; and that was just what happened. They claimed it was all right, because the Temple Iron Company must have a board of directors, and they must have a policy. If that board happened to be composed of gentlemen who were also interested in other companies, and if accidentally those other companies decided that the Temple Iron policy was a good one to follow, why, who could be to blame?

The court decided that Temple Iron was a conspiracy and ordered it dissolved, which it has been.

Such a conspiracy, it is claimed, was the National Packing Company. On its board the big packing corporations were represented. When they agreed on a program for the National, it became the program of all the concerns in the combination. See?

What? The Government Examine the Books?

WHEN the books of the National Packing Company were brought into court and offered in evidence to sustain the government's contentions, the attorneys for the packers promptly objected. The most positive denials have been entered as to the existence of a trust, and immediately thereafter the utmost effort has been made to avoid displaying books, accounts or contracts that would prove the truthfulness of the statement.

At last, however, the defendants' attorneys were chagrined by the ruling of the court that all the books were to be opened to the government's examination.

The frankness with which directions seem to have been given fixing shipments to various markets, apportioning the business to different packers and agreeing on the price, is one of the astonishing things brought out in testimony. The government, for instance, produced an unsigned letter, which was declared to have been sent to a packer, directing just what should be the division of business the ensuing week. It read:

DEAR SIR—

This afternoon it was agreed that each party will not ship during the current week in excess of the shipments agreed upon for last week.

Boston: At this point it was agreed that each party in interest will not ship during the current week in excess of his proportion of a total shipment of one hundred cars, basing such proportion on the average of weekly shipments to Boston for the eight weeks ending June 27, 1907. It was also agreed that parties in interest would endeavor to obtain for the current week margins of fifty cents.

Pittsburgh: It was agreed that each party in interest would not ship in excess of ninety per cent. of the average weekly shipment for the four weeks ending June 12, 1907.

There was much more of the same sort; in the aggregate, it purports to have distributed business aggregating 22,277,023 pounds; indicated to each packer how much of it he might handle in each market; and named the margin of profit that was to be demanded.

This margin of profit, it has been brought out, represented the amount to be added to the average cost of the meat. There could be no real competition, of course,

if these were the circumstances everywhere to be met. When the shipments to a given market became so large as to make it difficult to get rid of them at the agreed margin, it is said to have been the method to reduce shipments. Thus when the Albany market was unable to absorb all that was sent to it at the agreed prices, the pool is said to have ordered that all shippers reduce their consignments to Albany to ninety per cent. of former allowances. By shutting off Albany's meat-supply, the town would be held up for the full price required!

There were penalties, too, in the scheme, according to this testimony. Penalties are always necessary in the conduct of pools, for there is always some wicked member of the pool to take advantage of the limitations other members have imposed on themselves, by seeking to expand his business at their expense. So the pool is said to have had an arrangement by which, if a member violated the agreement by shipping in excess of his allotment to a given point, he was penalized: fined forty cents per hundred for all shipped in excess of the allotment. This, of course, practically wiped out the agreed profit.

Yes, an Enormous Business!

ONE illuminating bit of testimony given by Henry Veeder, for many years one of the managers of the pool, told about the original pool being abandoned, about 1902, for a number of months, and why it was abandoned.

"The Schwarzschild & Sulzberger Company people," said he, "had increased their business to such an extent that it was impossible to prevent the flooding of certain markets and maintain prices."

That is to say, one concern, not nearly so big as others in the pool, was able to smash the thing by insisting on real competition! The "S. & S." people have long been understood to maintain relations with the pool, but at times to act pretty independently. Anyhow, here is the testimony.

Apparently, however, the government did not believe this frank admission of the power of competition, for the government lawyer at once demanded:

"Is it not true that a government investigation of the packers was begun about that time, and that it led them to dissolve the pool?"

The witness believed there was something of the sort, but he was indistinct in his recollection of it!

It would appear, anyhow, that there was a government investigation at that period, and that, while the packers put up a brave front and insisted that there was nothing to investigate, they were, in fact, much worried about keeping their pool working. The testimony tends to show that it was abandoned for about a year and a "statistical bureau" established in its place, for the exchange of information about shipments each house was making to various markets. This, it is alleged, continued about a year, and then came the organization of the National Packing Company, which the government insists has really been the pool ever since, operating substantially in the way I have described.

There is one highly important feature of the packers' combination that the government does not seem to be opening up. That is the series of manipulations by which the big packers "froze out" the independent stock-yard companies throughout the country and forced themselves into control. This affects the farmer quite as vitally as the question of a pool to maintain dressed-meat prices.

The Stock-Raiser is Vitrally Concerned

MOST of the big stock-yards at western cities—such as Omaha, Kansas City, Sioux City, Wichita, etc.—were started by local enterprise, and were essentially home industries until the packers' pool got control of them. They would refuse to establish packing-plants at a given town until they were given huge bonuses, usually part cash and partly in stock of the stock-yards company. Frequently, too, they insisted that the packing-plant be built free and turned over to them.

This sort of thing, with exactions ever increasing, at length made it possible for the big packers to work themselves into control of the stock-yards companies in the various cities.

This gave them a monopoly of the marketing and buying end—the end that deals directly with the farmer. Just as, in the selling pool, distribution of business and fixing of prices gave them control at the other end.

Valuable and Useful Premiums

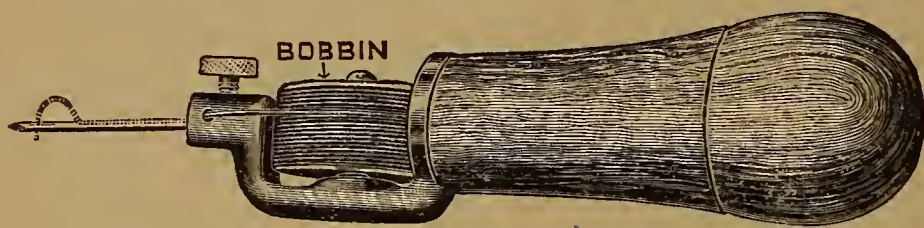
For All Farm and Fireside Readers

Before the subscription season is entirely over, we want our subscribers to join with us in a final rally. We are going to offer you a big reward for introducing FARM AND FIRESIDE into the homes of your friends and neighbors. On these two facing pages, you will find one or more articles that you would like to have and which you can get by doing FARM AND FIRESIDE a little favor. Surely you approve of the Every-Other-Saturday FARM AND FIRESIDE. Then won't you give us a friendly boost in your neighborhood? Look over this list of premiums and see the way that we reward every good turn of our subscribers. You can start out right away. Show this copy to a few friends and ask them to subscribe. Just as soon as we receive your list of subscriptions you will be sent your selection of these valuable premiums.

You have two ways in which to get each premium. You may send in one new subscription for one year and the amount called for in the offer. The premium will be sent either to yourself or to the new subscriber. In accepting this offer, be sure to tell us to which person we are to send the premium. For instance,—if you wish to get the Sewing Awl, send one new subscription to FARM AND FIRESIDE for one year at the regular subscription price of 50c, then add 10c to this amount to pay cost of handling, etc. Or, you may earn the premiums by sending us a club of subscriptions. In this case you will not have to spend a cent of your own money. Simply send the number of subscriptions required in the offer at the special club price of 35c. This is the easiest and best way to get the premium. Our premium offer is for a limited time only.

Something for Every Member of the Family

Our Useful Sewing Awl



An Article Needed by Every Subscriber

Of all recent inventions the Sewing Awl is deserving of most prominence. This is one of the most practical and handy articles imaginable. Every reader of FARM AND FIRESIDE should possess one of these awls. It is invaluable for repairing shoes, harness, tents, awnings, buggy and auto tops, sails, canvas of all kinds, gloves, mittens, saddles, all kinds of leather, etc. Can be used to sew up grain bags, burlaps, wire cuts on horses and cattle. Sews quick and strong. It will pay for itself in a week. It is indispensable to every farmer and stockman, as it enables them to make their own repairs. Each awl comes ready to use with a reel of 25 yards of waxed thread and two needles of assorted sizes. The needles are carried in the hollow handle. The regular price of this awl is \$1.00.

Our Special Offer

This Awl sent prepaid with one new subscription to FARM AND FIRESIDE for one year, all for - - - - - 60c

(To club-raisers: When subscribers pay the above special price, you are entitled to count the same in a club for a premium.)

This Awl will be sent to club-raisers for a club of three yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

31-Piece French-Decoration Dinner-Set



This 31-Piece Dinner-Set is daintily and tastily decorated in pink and gold, the consequent effect being that of the highest-priced china. The glaze is snow-white, and as these dishes are burnt in three different kilns, the decorations will not wear off. The set comprises 6 Plates, 6 Cups, 6 Saucers, 6 Fruit-Plates, 6 Butter-Plates and 1 Meat-Platter. This is a handsome set and one that will give complete satisfaction.

Our Special Offer

Dinner-Set sent with FARM AND FIRESIDE, one year, shipping charges collect, all for - - - - - \$2.00

(To club-raisers: When subscribers pay the above special price, you are entitled to count the same in a club for a premium.)

This Dinner-Set will be sent to club-raisers for a club of twelve yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

Aluminum Salt and Pepper Shakers



Aluminum tableware is now becoming popular with all classes. It is very serviceable, as well as neat and dainty. You ought to take advantage of the great popularity of this aluminum ware, particularly when you can get the salt and pepper shakers practically free with FARM AND FIRESIDE. This set will be appreciated by every housewife. Each of the two pieces is weighted at the bottom so that it will not tip over.

Our Special Offer

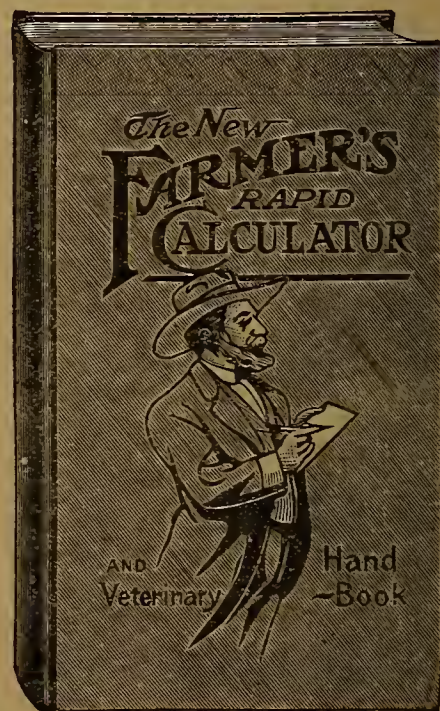
This Aluminum Set sent prepaid with one new subscription for one year to FARM AND FIRESIDE, all for - - - - - 50c

(To club-raisers: When subscribers pay the above special price, you are entitled to count the same in a club for a premium.)

This Aluminum Set sent to club-raisers for a club of two yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

Farmers' Rapid Calculator and Veterinary Hand-Book

The new illustrated Rapid Calculator and Veterinary Hand-Book is invaluable for farmers. It contains a simple and rapid system of figuring weights, measures, interest, wages, etc. By referring to this book, the correct answer can instantly be found to all practical problems that occur in store, shop, farm, bank or office. This book will prevent mistakes, relieve the mind, save labor, time and money, and do your figuring for you in the twinkling of an eye. It also gives the symptoms and treatment of diseases of horses, cattle, sheep and swine. This is undoubtedly the most convenient, complete and practical book ever published. Everyone should possess a copy of this convenient reference book. It will enable everybody to become quicker in figuring and to many it may prove to be a stepping stone to a successful career.



Will prevent mistakes, relieve the mind, save labor, time, money and do your figuring in the twinkling of an eye.

As Handy and as Useful as a Watch; Always Reliable and Ready

Remember, this book positively calculates not merely a limited number of examples, but every example that is likely to occur on the farm, in the store, office, or factory. Its great superiority over all others is in the accuracy of the answers. You can see the complete answer at a glance.

Our Special Offer

This Book sent prepaid with a one-year subscription to FARM AND FIRESIDE, all for - - - - - 50c

(To club-raisers: When subscribers pay the above special price, you are entitled to count the same in a club for a premium.)

This Book will be sent to club-raisers for a club of three yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

Handy Atlas of the World

This Atlas contains the 1910 census of the United States for towns of 5,000 population and over. It is the most complete handy Atlas ever published—123 pages bound in red cloth. It gives the map of every State and Territory, our Island Possessions, all printed in color. Also maps of Canada, Europe and special feature maps, locating where wheat, rye, oats and other products are raised. Conservation maps, illustrations showing races of men, etc.

Our Special Offer

This Atlas sent prepaid with one new subscription for one year to FARM AND FIRESIDE, all for - - - - - 60c

(To club-raisers: When subscribers pay the above special price, you are entitled to count the same in a club for a premium.)

This Atlas sent to club-raisers for a club of three yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.



Every Premium Guaranteed to Give Satisfaction

The Popular Watch

Our Popular Watch has been making friends for us for several years. In that time we have sent out thousands of these watches, and the satisfaction with this article has been so general that we offer it again this season. This watch is strong, well made and slightly, and is guaranteed for one year. Our boys have always been much interested in this watch, and for their use we know of none better. But we have also distributed thousands of these watches among the men, and the satisfaction has been universal.

Our Special Offer

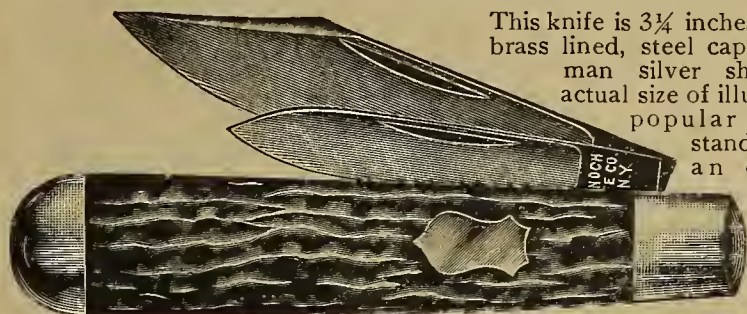
Popular Watch sent prepaid with one new subscription to FARM AND FIRESIDE for one year, all for 90c

(To club-raisers: When subscribers pay the special premium price, you are entitled to count the same in a club for a premium.)

This Popular Watch will be given to club-raisers for a club of four yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.



A Fine Two-Bladed Jack-Knife



This knife is 3 1/4 inches long, stag handle, brass lined, steel cap and bolster, German silver shield, two blades, actual size of illustration. This is a popular knife because it stands the test, and is an excellent "all round" knife. This knife is sold by retail dealers for \$1.00. The size is just right for the pocket,

not too large, yet large enough to answer all purposes. Even though you have a knife at present, it will be to your advantage to secure one of these for future use. The knife is guaranteed and will be replaced if found to be imperfect in any respect.

Our Special Offer

Knife sent prepaid with one new subscription to FARM AND FIRESIDE for one year, all for 75c

(To club-raisers: When subscribers pay the special premium price, you are entitled to count the same in a club for a premium.)

This Knife given to club-raisers for a club of three yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

The Famous "Little Scout" Rifle

Made by Stevens Arms Co.

Every American Boy Should Be Trained in the Intelligent Use of our "Little Scout" Rifle

The man or boy who has this fine rifle has one on which he can rely and which he is proud to own. A neat, compact model, embracing more convenient and practical features, simple of construction and thoroughly reliable. The parts are self-contained; that is, there is no frame, but the parts are attached to the action itself, making it very simple.

All working parts can be easily taken out by simply removing the stock from the barrel, which is attached with a thumb-screw. The action is attached to the barrel and the breech-block drops down when a cartridge is to be inserted or an empty shell extracted.

Barrel—Round, standard length, 18 inches.

Action—Operated by a thumb-screw attached to the breech-block, which drops into the frame.

Stock—Oiled walnut, blued steel butt plate.

Sights—German silver knife-edged front sight with standard open rear sight.

Ammunition—.22 long-rifle, rim-fire; also use .22 short rim-fire cartridge of any standard make.

Our Special Offer

This Rifle sent, shipping charges collect, with one new subscription to FARM AND FIRESIDE for one year, all for \$2.00

(To club-raisers: When subscribers pay the special price, you are entitled to count the same in a club for a premium.)

This Rifle will be given to club-raisers for a club of fifteen yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

A Reliable Fountain-Pen

For All Subscribers to FARM AND FIRESIDE

This Pen is Guaranteed to Give Satisfaction

This pen is of standard make and could not be purchased at a store for considerably more than our offer. We unhesitatingly guarantee it to give satisfaction or your money will be refunded on application. The pen you get will be a good deal larger than the accompanying illustration. It is a handsome, convenient and serviceable article. Just the kind of a pen that you will have use for every day of the year.

Our Special Offer

This Pen sent prepaid with one new subscription to FARM AND FIRESIDE for one year, all for 90c

(To club-raisers: When subscribers pay the above special price, you are entitled to count the same in a club for a premium.)

This Pen will be sent to club-raisers for a club of four yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.



Self-Sharpening Secret-Spring Tension Shears

Here is a pair of shears always sharp and will never wear dull. The Patent Tension device permits of cutting the heaviest of wool goods or the thinnest of silks. A turn of the thumb-screw tightens or loosens the blades. These spring-tension shears are made of inlaid steel by skilled workmen. Each pair is fully guaranteed. **Adjustable—Self-Sharpening—Ever-Ready.**

It's all in the Spring Tension. When not in use, this spring holds the blades closed, making the shears perfectly safe for children.

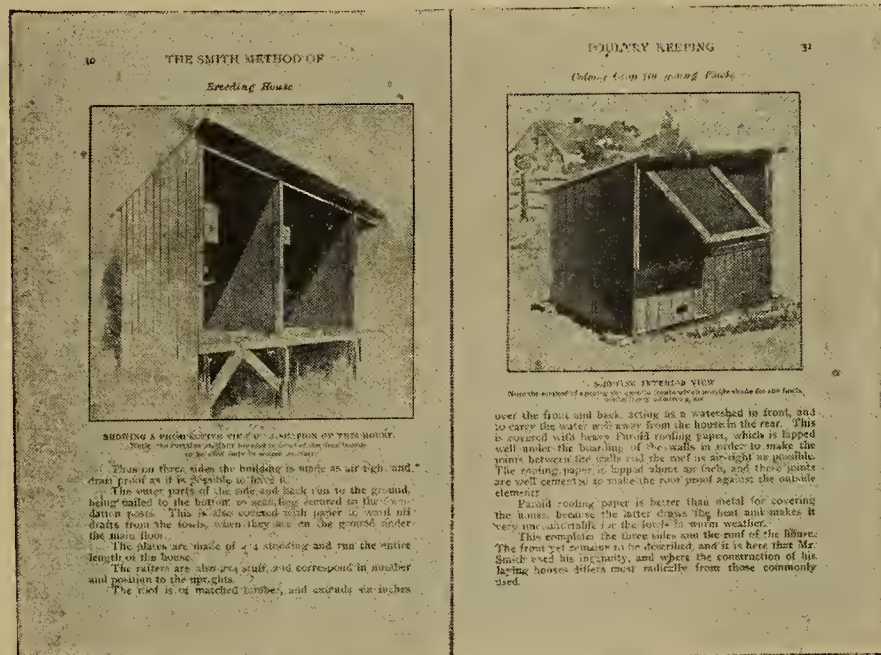
Our Special Offer

Tension Shears sent prepaid with one new subscription to FARM AND FIRESIDE for one year, all for 60c

(To club-raisers: When subscribers pay the special premium price, you are entitled to count the same in a club for a premium.)

These Tension Shears are given to club-raisers for a club of two yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

A Reliable Poultry Book with Farm and Fireside



Our new book, "Smith's Method of Poultry-Keeping," is the best and most practical book ever issued on poultry-raising. The illustrations are exceptionally fine and will delight everyone who sees them. The system of poultry-keeping explained in this book is particularly for those who desire large profits.

\$2,437.72 From Poultry in One Year

This book describes in detail how one man cleared the above amount in one year over and above all expenses on a lot 40x60 feet, while at the same time he looked after his regular business. Pretty fair for a side interest, wasn't it? But you can do as well if you apply an equal amount of scientific information to the problem. Beginners can be successful from the very start by following the Smith Method of Poultry-Keeping.

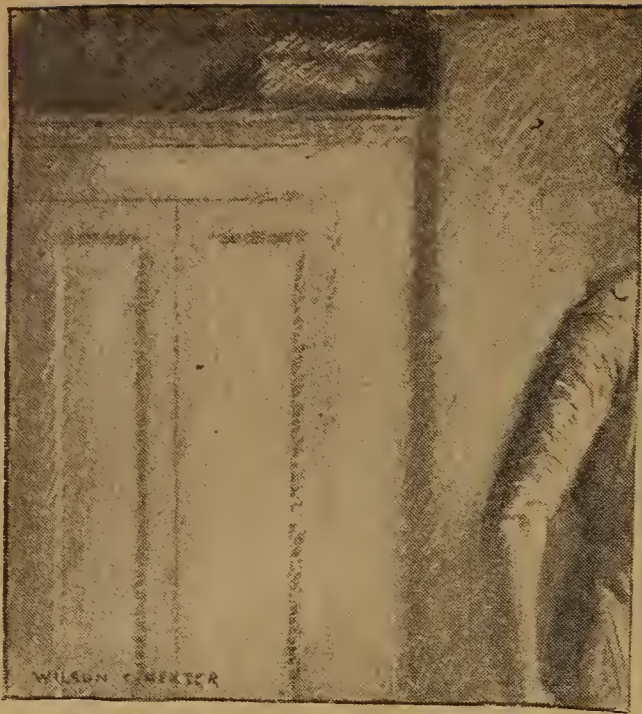
Our Special Offer

Poultry Book sent prepaid with one new subscription to FARM AND FIRESIDE for one year, all for 60c

(To club-raisers: When subscribers pay the above special premium price, you are entitled to count the same in a club for a premium.)

This Poultry Book given to club-raisers for a club of two yearly subscriptions to FARM AND FIRESIDE at 35c each. Your own renewal may be included in club.

Our Premium Offers Expire in Twenty Days
FARM AND FIRESIDE
Springfield, Ohio



The Road to HAPPINESS

By Adelaide Stedman

MR. JOSEPH TAYLOR is the father of the heroine of the story. He has always lived beyond his means, and rather than endure the disgrace of a financial crash disappeared.

MRS. JOSEPH TAYLOR, his wife, a society parasite, who is quite helpless without riches.

FRANCES TAYLOR, the heroine of the story, who is in love with Norman Norris, even after breaking her engagement to him. She is wooed by Jacob Jordan, who offers her financial aid in her troubles.

CAROLINE SANDFORD, a middle-aged, unmarried woman, who helps Frances in her financial straits by starting her as boarding-house mistress in a big house in a fashionable neighborhood, but in which business Frances fails.

NORMAN NORRIS, a country boy, who has succeeded as a lawyer in New York and who loves Frances, but who broke his engagement to her because of her seemingly frivolous nature. He has never ceased to love her, although his love, he thinks, is hopeless.

JACOB JORDAN, a member of a wealthy and aristocratic New York family, who is madly in love with Frances and who is just as willing to marry her after her misfortune as before her financial loss. He takes a malicious delight in her troubles, hoping thereby to strengthen his power over her.

MR. WEST, Mr. Norris's head clerk, a man of fine and gentle nature, who has fallen in love with Caroline because of her kindly disposition and her efforts to relieve distress.

Part VI.—Chapter XII.

AT TEN o'clock the following morning Caroline Sandford stepped from the door of her house, to be met by the postman, who smilingly handed her three letters, while at the same moment the sharp rap-tap of a cane and a quavering "Good-morning" announced the approach of a lame old lady who lived on the block, so Caroline, muffled in her furs, hurried down the steps to assist the hobbling figure to the car, which she boarded, also, thrusting the letters into her hand-bag to await a more convenient time.

A half-hour later she arrived in the far down-town financial district at Norman's offices, where she was expecting to sign some papers. As she sat for a moment in the waiting-room, she felt as though she could almost see the two familiar figures behind the closed doors: Norman, stern and gloomy, bent wearily over his laden desk; Mr. West presiding with placid satisfaction over an array of ominous-looking legal documents, and clerical books filled with his fine neat writing; while, as a matter of fact, for the last half-hour Norman had been sitting back in his desk-chair, holding in his hand a solitary diamond ring made to fit a slender finger, his expression a blend of eagerness, remorse and pitying tenderness, while little West was alternately watching the door leading into his employer's office with an uneasy air of expectancy, and sighing and smiling over a bit of paper on which he seemed to be making more erasures than anything else.

Caroline's business was with the clerk, and when she was ushered into his office, he crimsoned; the bit of paper on which he had been bestowing so much labor vanished under a pile of documents, and jumping up he gave her an undoubtedly cordial but rather incoherent welcome.

She saw immediately that he had something on his mind, and it was not long before the transparent little man, glad to have so sympathetic a listener, had poured out the story of his daring: How he had gone to Frances's boarding-house and had made arrangements for Norman's calling there, which he had done the previous evening without knowing in the least to whose house he was going. The sequel seemed doubtful in that Mr. Norris had looked much as usual that morning, and he couldn't tell what had been the result of his diplomacy.

Caroline realized that he was all impatience for Norman to speak to him about the affair, and before his brief recital was over she was as eager as he.

"Oh, Mr. West," she exclaimed, "if you only have played Providence successfully! Are you sure he looked neither more nor less gloomy?"

"Positive." The clerk spoke with unusual conviction.

Caroline smiled appreciatively as the situation grew clearer to her. "I wonder if they really met? Frances only left my house at five," she mused. Then her eyes glowed as they always did at thought of any generous



"Don't come to me for sympathy," she answered dryly

action, and she went on softly: "It takes very real devotion to try to assist a person when you may only get a reproof in return. You don't know how much I admire and respect you, Mr. West!"

The little man seemed to expand before her eyes, his smile shone dazzlingly. Her unexpected praise filled him with an intoxicating elation.

"If it hadn't been for you," he retorted boldly, "I should never have thought of doing such a thing! You said once, 'If they only could meet, I'm sure everything would be all right,' and I—I took your word for it! Mr. Norris may feel that I was presuming—but—" he glanced shyly at Caroline's admiring face, then finished firmly, "whatever happens, I'm glad I did it!"

Miss Sandford's cheeks were flushed with pleasant excitement.

"Are you sure that Mr. Norris will ever connect you with the affair at all?" she inquired.

"He must, when he stops to think, because he knows that I put into execution your plans for Miss Taylor."

"I understand. I should have told him otherwise. Real devotion is too rare to allow it to go by unnoticed."

"The knowledge of having given you any pleasure is enough," he answered so unexpectedly, with such ardent meaning, that the hot red of self-consciousness suddenly replaced the pink in Caroline's cheeks.

She glanced in amazement at Mr. West, and suddenly, for the first time, she saw that, standing erect, he was not really small of stature; his face, with the meekness gone from it, had a compelling charm, the triumphant happiness of the morning; the bigness and gentleness of his soul all shone in his smile. It was like a sudden glimpse of the unveiled sun after looking at it through a soft gray mist, and presently the film fell again, as Caroline spoke in a quick, confused voice, "I—you have some papers for me to sign, Mr. West?"

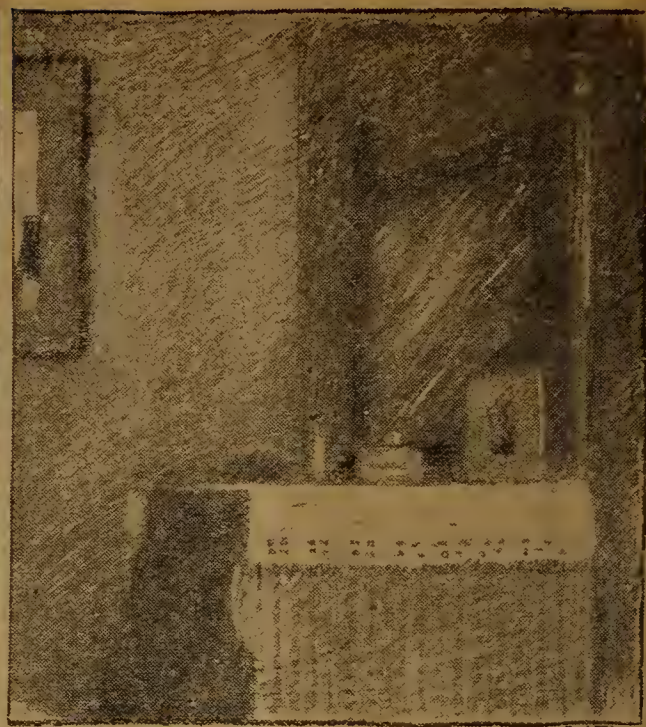
"Yes, yes," he answered in his familiar meek tones. "Here they are!" In his confusion, he took the whole pile that lay in front of him and pushed them before her.

Then for a few minutes they talked business, until Mr. West, finding a mistake in one of the documents, sat down to correct it. For the moment the lifelong habit of neat exactitude overcame even his delirious excitement, and he began carefully to remedy the error, suggesting to Caroline, "You might just glance through these papers while you are waiting."

Musingly she began to run her fingers through the typewritten sheets, when suddenly she came upon the little slip of paper, dog-eared from having been so hastily hidden and limp from much erasing. Amazed, she stared at the little sheet, for on it, written in the old-fashioned acrostic form, was:

C aroline, the fairest woman I ever knew;
A las, such as you the world has few.
R adiant is your smile to see;
O h, if it were only meant for me!
L augh on, ye fates, that know it all,
I know my air-castles are doomed to fall;
N one my secret will ever guess,
E ver my love must I suppress.

Almost unconsciously her eyes traveled along the lines of pathetic doggerel, and at their end she paused in half-guilty wonderment. Had he meant her to see the effusion? Had he planned this method of



Author of
"Poor Relations," "Miracle,"
"Intellectual Miss Clarendon," etc.

Illustrated by Wilson C. Dexter

telling her his sentiments, or had she surprised his secret? Her eyes still on the paper, her sense of guilt grew.

She should not have read the acrostic she told herself remorsefully, then looked up to find the little man staring at her, his face so full of hopeless love, so evidently unconscious of having betrayed himself, that the pathos of his intention of silent renunciation forced the tears to her eyes.

For an instant they gazed at each other, then the office-boy suddenly appeared in the doorway.

"Excuse me," he began with peculiar emphasis, "but Mr. Norris says he'd like to see Miss Sandford when she's through." As he spoke, he glanced from one to the other, and irresistibly a wide, all-knowing grin parted his lips.

Once more Caroline crimsoned, and conscious of an almost girlish confusion, rose hastily entirely forgetful of the unsigned paper. "I—have quite finished. I'll go to Mr. Norris now!" she said and with a smiling little nod to Mr. West, left the room.

Chapter XIII.

AS MISS SANDFORD walked into Norman's office, the embarrassed sparkle still in her face, he exclaimed wonderingly:

"Why, Caroline, what's the good news? You look positively radiant!"

"Nonsense," she laughed, a happy little thrill in her voice, "you must be seeing everything rose-colored this morning!"

It was his turn then to laugh with a vibrant undertone of joy and strive to broach the subject which was in both their thoughts.

Finally he managed to say, "I—I saw Frances last evening," then the worst over; he went on to tell of the incident, brusquely, with painful halts and pauses, during which he related the dramatic hour.

Caroline's disappointment was intense when she learned of its barren outcome; but remembering his former stern silence she brightened again as he questioned with ill-concealed tenderness.

"Tell me about the boarding-house, Caroline. What is Frances trying to do?"

Quick to take advantage of his softened mood, she gave him a word-picture of the girl's struggle; her sweet low voice giving it an added power and pathos hard to resist. In conclusion, she told of Mr. West's intervention, but so tactfully that Norman felt only gratitude.

For several moments he stared at the rug in silence until Caroline began again wistfully: "I had hoped so much from your meeting. Why did you go away without speaking?"

"I was so shocked. It was all so unexpected—she looked so hurt—so hunted! Before I knew it, I was out; but," suddenly his voice rang out determinedly, "now that I've had time to think, I'd go back only—"

"Norman!" It was an exclamation of joy.

"Yes, I would, only I know that Frances would think pity brought me!" He leaned forward, his old masterful manner strong upon him. "If, as you have always insisted, there has been some mistake, some misunderstanding, I'm going to know it. I couldn't have gone before, but yesterday has—changed me. I—I saw the brave fight she is making!" A pitiful little smile touched his lips. "I ate the awful dinner she cooked. I want to help her! I must help her. I—can't stop caring—and she needs me! Don't you understand? That wipes out the past! What can I do, Caroline? I couldn't bear another misunderstanding." He spoke with the quick, nervous intonation of a man of strong emotions, who suddenly feels them bursting forth almost uncontrollably. He could not have explained himself. He only knew what he felt, not why he felt it.

All night long the pathos of the weary voice sighing, "Three flights to walk and I'm so tired!" had rung in his ears, and with closed eyes or open he had seen her, drooping, weary, disheveled, one hand grasping the edge of her gingham apron, the other, flour-bedaubed, pressed to her breast.

His former mental pictures of her had all been so different. Always she had looked so exquisite, so radiant, the bright butterfly.

[CONTINUED ON PAGE 37]

The Home Interests' Club

Discusses Mothers and Sweethearts

By Margaret E. Sangster

IT IS too bad that Mrs. Kirwin and Mrs. Bell cannot be with us to-day," said the minister's wife, who was the hostess when the Club held its February meeting. "They are detained by the claims of their young people and of company in general. Mrs. Bell's mother and sisters from the city are making her a visit and finding out how much the country has to offer in the way of enjoyment at this season, and Mrs. Kirwin, having two daughters at home this year, is so much occupied that she is afraid she must resign outside engagements altogether."

"Ruby and Caroline were graduated from college in June," said Mrs. Porter, "and I hoped that their return after six years of absence would set their mother free for a social life of her own. The girls being twins have kept side by side in their studies since their childhood, and their parents have been very unselfish in sparing them so much of the time, while bestowing on their education the finest advantages in the choice of a preparatory school first and college later. Mrs. Kirwin said to me one day that her girls had worked so hard and been so debarred from the usual pleasures of their age that she wanted them to have a good time and a full swing for the next twelvemonth. After that, if Ruby does not marry and Caroline does not become engaged, I understand that they will not bury themselves in village life. Caroline will take post-graduate work or enter a medical school, and Ruby will devote herself to art. Tom Russell has been Ruby's knight-at-arms since he and she attended the district school, and it is rather expected by the Russells and Kirwins that Ruby and Tom will marry and settle down on the old Russell farm. I think myself that this will be the outcome of their years of comradeship. They are apparently lovers. Darwin Meade is very much attracted to Caroline, and she seems to favor his attention. It looks to me as though these girls might have managed to get on without so elaborate an education if they are to be married in the near future. It looks to me, too, as though they are forgetful of the self-denial and loneliness and the humdrum life their mother has led when they are ready to leave her so soon."

Mrs. Porter's remarks suggested several topics for discussion, and the first was seized upon by Miss Stella Bordman, who taught Latin in the high school, and took exception to Mrs. Porter's inference that matrimony did not necessitate a college course. "Madam President," she said, addressing the Chair, "may I say to the women present that so far as my observation goes the woman who has received the most thorough intellectual discipline and the widest training in books and literature is the one best fitted to carry forward domestic life and make her home a place of nurture as well as of comfort for all within its doors. I wish that every girl who wants it and who has the mental equipment that will grasp opportunity, might have the culture of college. I have regretted very many things in my life, but have not yet seen the moment in which I regretted the strenuous days of my university training. Unless these girls are in love and are making a really good choice for the future, I could find it in my heart to wish that they might have the chance of a still wider education."

"Of course," said Mrs. Elderbury, "we listen with deference to Miss Stella's candid expressions of sentiment. She speaks from the standpoint of the teacher. I have learned that every question has more than two sides. Many practical questions have several aspects and must be studied in their relation to various and conflicting claims. Mrs. Kirwin, sitting at home and hearing the clock tick, darning Elijah's socks and training her Hungarian Annie in the mysteries of bread-making, had before her a picture of her darling twins drudging over their books and bending to their tasks like stokers in the engine-room of an ocean steamer. You need not laugh and you need not say that you know me of old, and that the years have not cured me of my tendency to exaggerate. Have I not talked with Mrs. Kirwin and with many another mother, and heard them lament the hard times their daughters or their sons had been compelled to undergo when they were away at college? The girls sent home weekly by express their dainty lingerie, and the mother laundered it with her own hands, trusting not one of the delicate garments to the unskilled hands of Annie. I am not talking about boys just now, or there are things I could say concerning them, but this I will say, the very brightest, gayest, merriest and most interesting days of youthful life are those spent by young people in college. They are days full of vivid charm and brimming vitality. The hours spent in study and recitation are simply delightful and stimulating, while basket-ball, tennis, skating, walking and other diversions follow one another according to the season, and there are never lacking afternoon teas with special chums and pleasant social evenings. When the girls come home, as Ruby and Caroline have, there is a natural letting down, and if, as is happily the case here, love has not advanced to the front, life would have seemed flat and flavorless. Mrs. Kirwin has misunderstood the situation, because she never went to college. I misunderstood it myself until, being a grandmother, I found the leisure to trot about here and there and look into matters personally."

"Suppose," said Mrs. Madison, "that we mothers in council should ask ourselves whether turn about is not fair play. To-day, for example, two of our members are prevented from attendance at the Club by the claims of the young people."

"Pardon me, Mrs. Madison," interrupted Mrs. Elmore, "but Mrs. Bell has no young people, and she is one of the two whose absence we lament."

"I stand corrected," said Mrs. Madison, "yet only partially, for our friend has a bevy of nephews and nieces and younger sisters, and we are aware that more than half the time she is giving house-parties, as it is her privilege to do, and wearing herself out in satisfying the demands of her juniors. Let me restate my opinion and put it in the form of an interrogation. Are not we women, married and single alike, too prone to relinquish social pleasures and drift into the background when we reach middle age? Do we not let the insistent vitality of the young people sweep all before it? I have friends whom I seldom see, although formerly we exchanged visits often; I have other friends, from whom I seldom hear, although we used to correspond regularly, and in every instance the excuse is

urged that the household is given over to the young, the hospitality is in their behalf, the home is run almost exclusively for them and their companions, while parents are contented to be providers and spectators. Society wholly given over to the young is perhaps gay, but it lacks essentials of strength and wisdom, of sweetness and light, too, that can be imparted only by the mingling within it on an equal plane of older and maturer folk. Mothers and grandmothers, fathers and grandfathers, people of ripe years and discretion, ought not to be contented to dream by the fire and yield to Time's onslaughts by the method of least resistance. They should valiantly continue the battle against Time by keeping abreast of the young."

A modest little woman who seldom addressed the Club, now took her courage in both hands. "I want to ask advice about my Mary. She is not quite fifteen, still wears her hair in two long braids, while her frocks come down to her shoe-tops. Until six months ago Mary cared nothing whatever for boys. By this, if I can make myself clearly understood, I mean that she was indifferent to them and that she treated them just as she did her girl friends. Her brothers are younger than she, and her cousins much older, but the neighbor boys played with her, walked with her to school and recited in the same classes without occasioning her the slightest thought. They were merely incidents in the day's work, and I heard nothing about them and little dreamed that a time was soon coming when my little girl would awaken anxiety by her interest in Jimmie, Richard, Willie or any other boy in the township. Suddenly, as it has seemed to me, if I may quote Kipling, 'the dawn came up like thunder.' Mary began to fuss about her hair. It must be differently arranged with broader ribbons; she was not satisfied to look like a kid. Then I noticed that she lingered a long time before the glass in dressing, that her dresses were objects of solicitude, and that boys and what boys said, what they did and whom they favored, crept into her talk until I almost felt that I had lost my Mary. It is not that she has become bold; it is rather that she is self-conscious and, oh dear me, there is one boy, a boy I do not much like, who has dropped into a habit of calling for her in the morning and carrying her books, and stopping along about dusk and loitering at the gate. He gives a low, birdlike call, a sort of suppressed whistle, and out flies Mary, and I hear giggling and talking, and there she stays no matter how cold it may be until I call her in. Now what shall I do?"

The women of the Club had listened to this story with glances of sympathy and comprehension. The minister's wife was the first to speak. "The weather at this season," she said, "is not adapted to twilight talks between boys and girls, unless they are well wrapped up. I should never encourage Mary in responding to the bird-call of a boy at the gate. I should open the door and ask him in and give him something to eat. Fudge or doughnuts or apples and nuts have always seemed to me the suitable refreshments to offer when boys and girls want to visit together. Why not let such friendships be carried forward, not under protest, as if they were wrong or perilous, but let them proceed under mother's eye, within father's hearing in the family living-room where the household occupations are in progress? It is prohibition that makes boys and girls self-conscious when they first begin to understand vaguely the distinctions of sex. I fancy that I know the lads of our neighborhood pretty well, and I do not think there are any among the school-going clan who are not good companions for the girls. We cannot keep our girls and boys from growing up, and our plan should be to let their intimate friendships go on naturally without treating them as if they belonged to the region of forbidden fruit."

The doctor's car had been heard at the door, and before the last speaker had concluded, the doctor, bluff, hearty and genial, had stepped into the room. He had been visiting a patient near-by and had stopped for the double purpose of meeting a number of friends and taking his wife home with him. Asked if he had anything to contribute to the discussion, he promptly answered in the affirmative. "May I say a word from the viewpoint of a medical man, as well as from that of a husband and father? Adolescence in both sexes is a period of transition, and transition periods are seldom other than difficult. Some of us overlook the fact that there can be no arbitrary rule to cover all cases. The fact is that we ought to study the individual case. As a physician I often discover that young people are left too much in the dark concerning the conditions of life, and they cross the threshold of maturity, bristling as it does with danger, wholly unprepared and unprotected. Fathers and mothers owe a particular duty to every child in the home, and in the early teens especially they should remember that the tides of life are rushing in, setting toward the flood, in their daughters and sons. I have been persuaded for some time that the mothers in a rural community should guard most carefully the social intercourse of their boys and girls. In the earlier teens they should have their pastimes and recreations under the maternal eye and in unchecked freedom. It is not, however, either right or safe to suffer young people in the later teens or the early twenties to pair off for long, solitary drives, sleigh-rides in winter and moonlight jaunts in summer without a chaperon. We, of course, consider our young people safeguarded from danger, because everyone here knows everyone else, and all along the countryside the homes are friendly and the roads well traversed. Notwithstanding this, even here in the country we may learn something worth while from the customs ordained conventionally in the town. Groups are better than pairs on most social occasions for the young, and the presence of a married friend adds to rather than subtracts from the pleasure of an evening."

"How about the lover and the sweetheart, doctor?" said Mrs. Elderbury.

"Ah," said the doctor, "I did not come here to make speeches or be lured into traps. So long as the world goes round, the story of true love will be retold every day in the year. Is not Saint Valentine the sweetest saint in the calendar? I believe in love's young dream, in early marriages and brief engagements. Is that wife of mine ready? I have three calls to make."

The doctor's wife was ready, but coffee and cake were brought in, and they stayed a little longer for the desultory chat that was always the pleasantest part of the Home Interests' Club. The days were lengthening perceptibly, and a rosy sunset crimsoned the snow, as the members went their separate ways.

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A Luncheon-Set in Crochet

An Easy But Effective Pattern

By Hannah Waldenmaier

LUNCHEON and breakfast sets are becoming so universally used that the woman who is fond of a daintily set table will be very glad to see what she can do with a simple crochet-needle and some ordinary cotton thread.

The large doily used as a centerpiece for the set is fifteen inches in diameter, the plate-doiily about ten inches and the tumbler-doiily six inches. The pattern is particularly easy, the same stitches being used in each one of the three articles. The central portions of linen or fine muslin are buttonholed in. In doing work of this kind, it is well to remember that a heavier quality of muslin or linen is preferable to the finer and daintier weaves.

One courageous woman who believes in good things to look at, but likes them made with small physical effort, found that by basting the centers to a crocheted edge and carefully going around it twice



Tumbler-doiily

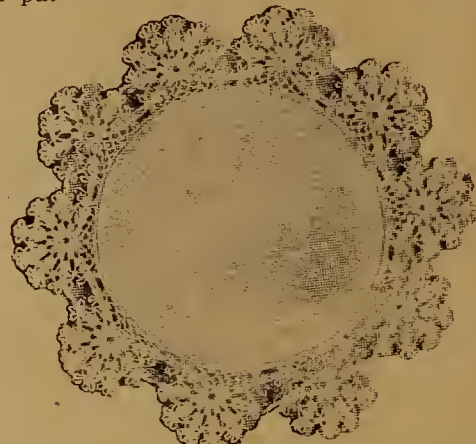
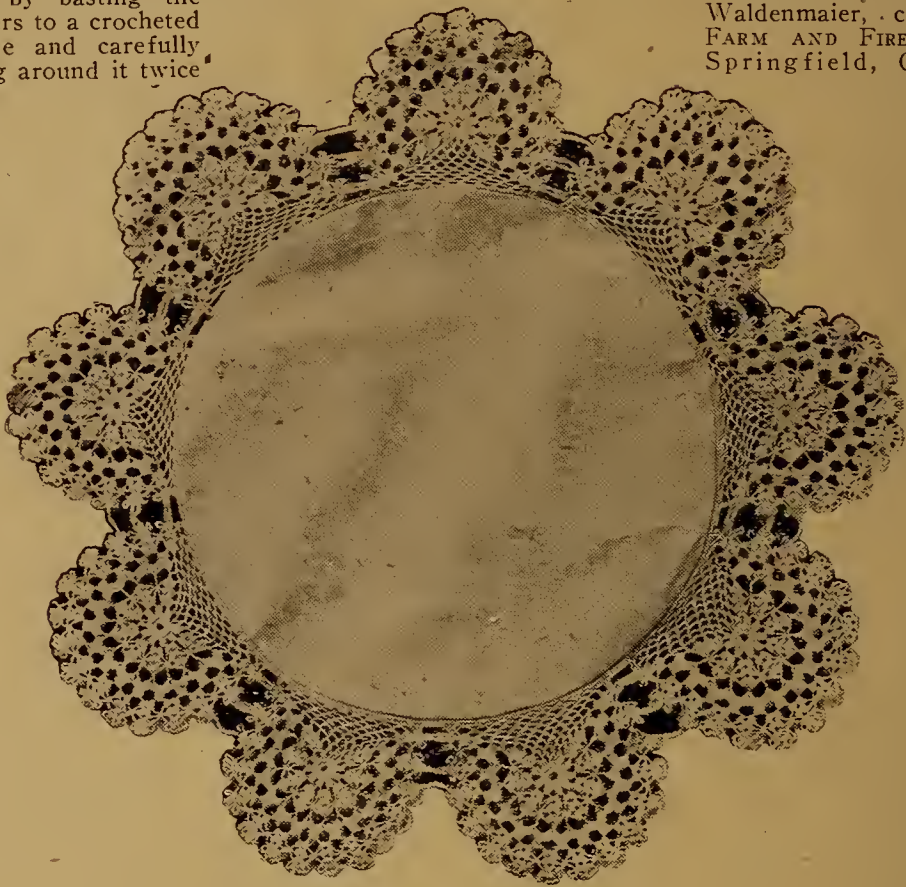


Plate-doiily



Centerpiece of luncheon-set

on her sewing-machine she formed a strong and at the same time not an unpleasant finish to her doilies.

Of course, there are many housewives who would have judged it to be slovenly, yet the stitching was firm and resisted the onslaughts of the washtub in a most successful manner.

Although doilies edged with Cluny lace are much more fashionable, these crocheted edges will be found to look well, wear well and wash well. In fact, it is often necessary to insert new portions of linen, as the crocheted edge is apt to outwear the center two to one.

EDITOR'S NOTE—Full directions for crocheting this luncheon-set will be sent upon receipt of four cents in stamps and a self-addressed envelope. Address all of your communications and requests for these printed directions to Hannah Waldenmaier, care FARM AND FIRESIDE, Springfield, Ohio.

The New Worsted Rose as a Hat-Trimming

By Evaline Holbrook

CROCHETED sprays of roses are the latest novelty for the trimming of hats, and they are most attractive and easily made. In the spray shown in the picture, eiderdown wool is used for the rose and bud, and double Germantown for the leaves. Less than a skein of each is needed, and the work is done with a large bone crochet-hook. Such sprays are used on all kinds and sorts of hats and seem to be



as frequently seen on silky beavers or velvet hats as on crocheted wool or worsted toques, automobile bonnets or skating caps. Fidelity to nature is likewise a forgotten virtue as a dull-orange rose with deep-blue leaves is quite as usual as a crimson flower with dull-green leaves. Daring modistes even place these flowers upon gowns and costumes, to which they give an odd and original note.

EDITOR'S NOTE—Full directions for crocheting the worsted rose, bud and leaves will be sent to anyone sending four cents in stamps and a self-addressed envelope to Evaline Holbrook, care FARM AND FIRESIDE, Springfield, Ohio.

SUNDAY

READING



When Sunshine Counts

By Gertrude Mercia Wheelock

DID you ever wake up in the morning and have the feeling come over you like a shadow of the long day ahead—of the hours you knew would be filled to overflowing with unremitting duty, where even a few minutes snatched from the routine of the day's toil for some pet or longed-for diversion would be absolutely out of the question? Have you experienced the sensation of longing to turn over and just take one more little nap, and then the thought of the duties calling has drawn you reluctantly and protestingly out of bed, and you have thrown on your clothes, bathed face and hands, twisted up your hair, not any too becomingly—and plunged in?

Yes, we have all been there—known what it was to hear others talk of pleasure, of idle hours, of recreation and life—and wondered if it would ever come our way. With face turned loyally through monotonous hours to the duties that keep family and home together, it is sometimes hard to see the justice of our position; and only experience in the value of living sunshine can prove its worth.

It is hard when the work drags, and things go wrong, to keep a cheerful face and smiling manner; it is hard when others are thoughtless and careless to be forgiving, and hold back the taunting word or look of reproach; but it pays to do this; it pays to cultivate the disposition that finds it easy to do this, because such a disposition cannot only accomplish twice as much, but can accomplish it with greater ease and with less wear and tear on the mental and physical life.

I once heard a woman say that she had learned to work by rhythm, and found it worked so well that she knew just what songs to put into the different tasks. She had one lively little tune that went with the washing of the breakfast-dishes, and she said it became such a favorite for that especial task, and the work fell into such a pleasant routine, that she invariably used it to hasten and lighten her work.

Another woman whom I know told me that she had conceived the idea of learning the words of all the dear old favorite ballads, while making her children's pinafores. She would pin penny copies of the songs up on the wall where her sewing-machine stood, and between the stitches she would weave the sweet melody of the beautiful ballads. This kept her mind off the soberer things of life and lifted it to a state of joy—kept her spirits up and made the time seem less a period of hard work.

To carry the illustration of living sunshine further, I remember a woman's telling me (and she had a taxing farm life to live) how she had made up her mind when she came as a bride to the farm to gather all the brightness possible indoors, especially through the cold and gloomier months. This woman arose at 4:30 summer and winter, and her life seemed one monotonous drudge, yet she told me she had been able to bring more real sunshine into the family life, and had encouraged more cheerfulness in the entire circle than she had believed possible. She made it a rule (often having to take the time right out of the day) to gather a few bright leaves or evergreen boughs—just something that would give a garden touch to the home.

She saved the odd pennies and bought a canary who trilled tirelessly in his sunny window. That woman was a "jewel" and a brilliant jewel, worthy to shine in the highest circles, and she made the round of farm life the highest circle, by giving that touch of real joy and brightness—with the wonderful transforming influence of a sunny temperament she transformed it into a living garden of happiness.

This life is full of thorns and rough places, of shadowed highways and byways, but every woman holds it in her power to transform her little world and to make it glow and throb with the sun-

tillating beams of real sunshine, and not only her world, but the outer world will feel the light from the rays.

It is difficult, and not only difficult but almost impossible under some circumstances, to be cheerful, but if one can be philosophical, heroic and unselfish enough to fight for this quality, the very fact of conquest will mean added strength and glory to carry one through darker and rougher places. It is a wonderful thing to be able to look back over some difficult path, whose ways seem devoid of one ray of hopeful light, and say, "All through that time I never once lost my hopeful spirit and the smiling cheerfulness of independence."

It is in the prosaic little by-ways of life that the greatest need lies for the propagation of the seed of sunshine and cheer, and that woman has contributed her share, and a goodly share, to the glorious uplift of humanity when she carries through the gray humdrum of duty the penetrating sunshine of a bright and cheery disposition.

Lest We Forget

By L. D. Stearns

THE year has ceased to be new, my friends. We've had a chance to get acquainted as it were, to buckle down, hand in hand with life, as she unfolds from day to day before us. Friend, are you doing all you meant to do, when the year first came, fresh from the hand of God?

Yesterday when, perchance, you cheated life, and thought no one knew, did you forget that you had resolved to make this the best year you had ever known? Did you forget that GOD KNEW?

The record you're writing from week to week is the record you will be judged by one day. We're our own infallible judges, you and I, and we're preparing the judgment in a scroll, on which we write minute by minute, as they come and go—coming clean, and pure, and true; going, like the breath of a sigh, HOW?

What record have you made to-day, my friend? Have you done the very best you could?

We may cheat our neighbor, that's bad enough! but when we cheat life, that's the worst of all. And if we cheat our neighbor, be very sure that's but one way of cheating life. We owe to her faith, and truth, and nobility of heart, and purpose, and life. We owe to her all our best, as it reaches out, and up, and in. We owe to her a clean, pure womanhood and manhood; and if we've made mistakes, if somewhere in the record are pages soiled with sin and wrong, we owe it to her to see that the balance stands clean and white. If you failed yesterday, God still hands out to-day and to-morrow; and remember, HE UNDERSTANDS. You can make to-morrow what you will.

In my work from day to day I see, and hear, particularly much of those people who have cheated life; who have not used the powers it gave as God meant them to be used; who have squandered their days in idleness, pettiness; or else in abuses of one sort or another; until, at last, in tones that could not be disregarded, life called, "Halt! Now you must pay!" For, friend, if we cheat life to-day, we'll have to pay to-morrow; and the payment exacted will be full and complete. But treat life rightly, and it pays generously, and its payment means health, and prosperity, and happiness.

Let's square our shoulders a little harder, and set our teeth a little firmer, and then go out and be true to life and the God who gave us life. Let's look at the glory of the day, and of the night; and remember that the One who gave is the One whose love is from everlasting to everlasting.

Let's resolve each day, as it comes, whatever it may bring, to be true. And then let's pause just a space, and on our knees, before going out into work, lift the resolve up to God lest, without that moment with Him which will stamp it on our soul, we in the stress and hurry of the day, forget.

Do Thy Work

Do thou thy work; it shall succeed
In thine or in another's day,
And if denied the victor's meed,
Thou shalt not miss the toiler's pay.
Whittier.

Comradeship

By Evangeline Elizabeth Crowell-Dunlop

COMRADESHIP! Oh, the magic of the word! What visions of happy hours gone by does it not recall! Of friends who have loved us, and so loving have shared our confidences. Those dear ones gone before, who, when here among us, used to take our hands in tender sympathy and listen interestedly to all our childish plans and with wise counsel aid our little schemes, that to us were so remarkable. Can money, jewels, magnificent gowns, bring one more than envious admiration from the majority? It is the qualities of soul, the blending of interests and aspirations, that gives this subtle, elusive, most-longed-for result, a comrade. We may love someone very dearly because of home ties and an innate loyalty, but that will not of necessity make of them a true comrade. It is the degree in which one soul gives of itself to another that determines the golden quality, the fine spiritual essence of this "gift of the gods," a comrade.

Good Thoughts

IF YOU have a friend worth loving, love him. Yes, and let him know that you love him, ere life's evening tinge his brow with sunset glow.

It is a good thing to be rich, and a good thing to be strong, but it is a better thing to be loved of many friends.—Euripides.

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Valentines Children Can Make

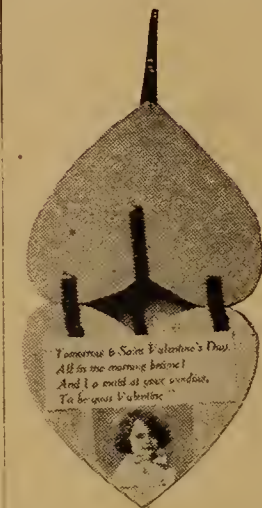
By Evaline Holbrook



S AINT Valentine's Day is coming, and every child wishes to surprise all her friends with a valentine. I wonder how many boys and girls realize how much more lovely the home-made valentines are than those which are bought, and how little it costs to make them. They may be made of almost anything. Cardboard is needed, and if you can get it in a pretty color, so much the better. Red is particularly good. A lot of old magazines also are useful, and so are the paper laces used on candy and other fancy boxes.

On this page there are a number of valentines which children can make without any trouble. A valentine that would be good to send to a baby friend is made of a square of cardboard in some pretty color. Over the center of the cardboard is another square of white paper, pasted diagonally on the cardboard, and over that is pasted a picture of a baby, which is cut from an old magazine. Around the edges of the square is printed the old rhyme:

Roses are red,
Violets are blue,
Sugar is sweet,
And so are you.



Easy to make

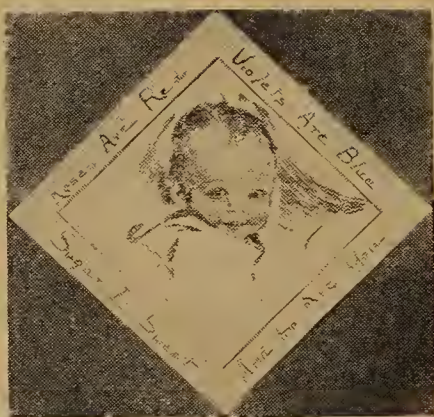
Another pretty valentine is made of a piece of paper lace that covered the candy in a pound box. The center part of the lace was cut out and the remainder pasted on a piece of white paper that reached to the edges of the lace. On the center part of this paper, which was uncovered by lace, a verse from Heine was printed, and at each end of the valentine was pasted a spray of flowers printed in color and cut from an old magazine. The verse is this:

I would the songs I'm singing
Had little flow'ers been;
I'd send them to my sweetheart,
For her to smell, I ween.

Another good verse might be taken from Eugene Field's "Be My Sweetheart." It is such a charming little verse and so appropriate for a valentine, I know you'll want to use it:

Sweetheart, be my sweetheart
When birds are on the wing,
When bee and bud and babbling
flood
Bespeak the birth of spring.
Come, sweetheart, be my sweet-
heart
And wear this posy ring!

Better than any of these selected verse would be little rhymes made up to fit the person for whom the valentine was intended, and a lot of fun started. A valentine of this kind is so much more personal that it gives double pleasure to the recipient. Pasteboard hearts always make pretty valentines, and they can be used in a great many different ways. Red is, of course, the best color to use. For one of the heart valentines illustrated two red hearts are joined with red ribbon, and a loop of ribbon to hang also is pasted on. On the outside of one of the hearts is the sentiment: "Two hearts with but a single thought," the letters for which were cut from a magazine.



A valentine for baby

lace paper secured from the top of a candy-box is pasted over the hearts, and in the center of the panel is the picture of a little boy, cut from a magazine.

A simple little St. Valentine's Day gift for Grandma or Grandpa is a book-mark like that in the picture. It is made of a length of green ribbon which came around a candy-box, the ends tied together in a bow. Three small hearts are cut from red pasteboard and pasted down upon the ribbon. It would be a pretty idea to put a tiny photograph of the giver on each of the hearts.

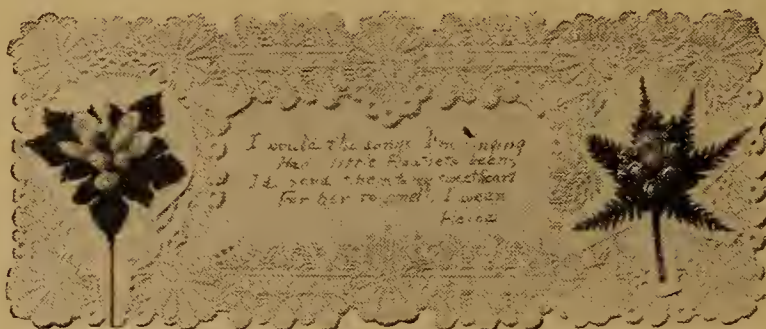
Both easy to make and attractive is a valentine in the shape of a fan. To make it the necessary number of sticks are cut from cardboard, and a hole punched at each end



A valentine book-mark



Made from candy-box lace



Also evolved from a bonbon-box

of each stick. For the words "To my valentine" letters were cut from a magazine and one letter pasted on each stick. The border pasted beneath the letters also was cut from a magazine where it formed a decorative edge around a page. When the pasting was done, the sticks were joined by ribbon through the holes at each end. At the bottom the ribbon is drawn up and the sticks tied close, but at the top enough ribbon must be allowed for the spread of the fan. The fan may be closed for mailing and a delightful little touch may be added by putting some personal sentiment on the first stick.

For the other simple valentine a piece of gray mounting-board was employed for the foundation, upon which paper lace torn from the inside of a box was pasted, with a pretty picture of a girl's head, cut from a magazine printed in color, at the center. A better idea would be to use, instead of the picture, a photograph of the sender.

A delightful and serviceable St. Valentine's Day gift for a young girl would be a tiny heart-shaped sachet made of some delicate color with "Let me be your sweetheart" outlined in black upon it. Any child could make this simple gift. A gift an older child could make for her mother would be a candle-shade of heavy yellow parchment paper, with a row of red-paper hearts outlining both the top and the bottom edges. The weight

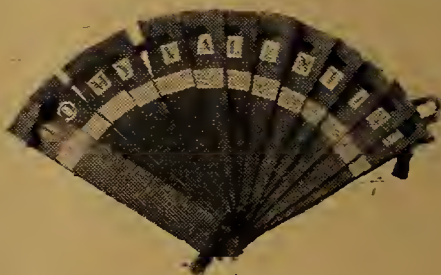
of the paper would be sufficient to keep the candle-shade in shape. It should be round, closely fitting the ordinary holder at the top and flaring wide at the bottom.

Two large hearts of linen, heavily padded and interlined, and joined all around, excepting at the top, would be another suitable and easily made gift. This handkerchief-case would be lovely if trimmed with a flat edge of some simple narrow lace crocheted with fine thread and fine stitches. Bows of ribbon should be placed over the lace at each side of the top of the heart.

No doubt many of the girls who read this page are planning to give a valentine party, so perhaps you will welcome a few suggestions for games. Have you ever played "Heart Search"? It is heaps of fun. Hearts of blue, pink or white cardboard are cut into halves, thirds or quarters, while some are left whole. These are then hidden everywhere in the room. Some are pinned to the portières, others to the furniture, window-curtains, or the lam-brequin, and others are pinned high up, perhaps on the wall. The guests are asked to find as many hearts as they possibly can in ten minutes. The one who is lucky enough to find the most, receives a prize. The little valentine book-mark illustrated at the top of the page would make a very appropriate one.

Be sure to play "Heart and Dart." The girls and boys will enjoy it. On the wall tack up a square piece of muslin. Draw it as tight as you can and place on it a large heart made of red velvet or any red material that you happen to have. Blindfold the players, and give each one a little gilt arrow. The player takes aim and tries to pierce the heart. The guests who succeed in thrusting the arrow through the heart are asked to draw for the prize, which might be a little box of chocolates in a heart-shaped box. If arrows cannot be obtained, use large pins instead, and let the guests, blindfolded, walk up to the heart and stick the pin into it, the same way that you play "Donkey."

By all means, play "Heads and Hearts" at your valentine party. Have ready a number of comic valentines. Cut the figures out and cut the heads from the body. Paste the latter on red-paper hearts. Distribute these among the guests, and ask them to match heads and bodies, and paste them on in the right place. Award a small prize to the one who most suc-

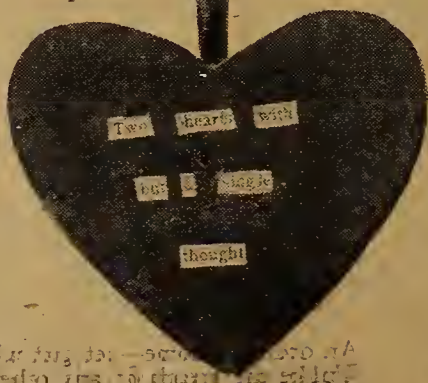


A valentine fan

cessfully matches up the greatest number of heads and bodies, and a funny valentine to the one making the most ridiculous misfits.

I haven't told you one thing about decorations, because I thought there wouldn't be room. Anyway, you all know that a valentine party calls for paper-heart decorations. Use strings of hearts wherever you can, and hang a festoon of hearts between the double doors. Have the dining-room lighted by candles. You can easily make pink-paper shades for them, and they will give such a soft, rosy glow to the room.

For supper, serve chicken sandwiches, cut heart-shaped, hot chocolate, heart-shaped chocolates, salted almonds, or any kind of nuts, ice cream and heart-shaped cookies.



Red paper and red ribbon

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Letters From a Country Sister

She Preaches the Simple Life



DEAR MARTHA—

I have been trying for some time to put good sound common sense into my housekeeping. The effort has brought me its own reward, for I am enjoying my work as I never did before and I am also getting much more out of life for myself. That's because I'm not all tired out when night comes and I have time to improve myself mentally and physically. I tell you a woman who has a right estimate of herself and her ability must do this if she is going to be any better than a household drudge. I for one won't lend my name or influence to that class. I accidentally came across such a very helpful motto for housekeepers the other day. I believe the author of it is Mrs. Robert Burdette, wife of the popular southern California preacher, who, at the time she gave utterance to this expression, was president of the National Federation of Woman's Clubs. She said that housekeepers should "simplify, jollify, beautify, glorify" their work. Fine words, are they not, especially when applied to such homely tasks as boiling potatoes and washing dishes! Still they have sung themselves so forcibly into my brain, and so cheerily too, that I really begin to see where they can be applied very effectively.

Simplify! Don't you think that fits the case like a new kid glove, for where is there greater need to simplify than in housekeeping on the farm? And the best place to begin is on the dinner-table. I tell you, Martha, there is too much time spent in cooking for the farmer's family. That doesn't mean that we cook with any more care than we should, but it does mean that we are often too indifferent about what we cook and the way we cook. If we knew more about the correct way to cook potatoes and broil a beefsteak, there would be less need for a procession of pickles and side dishes to offer apologies for soggy potatoes and leathery steak. If we always had bread and butter as delicious and nearly perfect as they can be made, there would be fewer demands, I am sure, for pie and cake. Variety is all right and very good, but it should not take the place of excellence. I have learned to believe, too, that if every woman—not farmers' wives alone—spent a little more time studying food values and a little less frosting angel-food cake and making rich pastry, they would not only have better health, but we should find many a place where we might practise that attractive little word "simplify" in our cooking. I am very sure, too, we could make it applicable to other parts of housework if we only tried. Don't you think if we did we would have less bric-à-brac to care for? The day that motto sang the loudest to me I went into the dining-room and demolished the plate-rail. I was glad to see it go too, for I had spent many precious minutes dusting those cups and plates, minutes that might have been better used in other ways. I was never quite sure in my own mind either that the mixture of china was harmonious. I don't know enough about such things to make a selection supposed to be decorative.

Then I put the pruning-knife into my "daily routine of housework" and lopped off a job here and another there that could be eliminated if I heeded the command of simplify.

When I had mastered that much of the text, it was not difficult to find an excuse to "jollify." A simplified table with better meals; simplified housekeeping with a cleaner house and a sufficient equipment for the necessary work, who couldn't find a dozen things in domesticity to be glad about? Jolly if you like the word better—I believe I do! But when there are worn-out tools, or not enough tools of the right sort, the weariness of work takes all the jollity out of life. It is the knowing how and doing it in the right way with right equipment that makes the housekeeper's lot pleasant, whether her place is on the farm or in the city.

Beautify! Now what does that mean to you, Martha, when applied to housework? To me it means harmonious rooms, restful and satisfying in their furnishings. A living-room decorated with soft, quieting browns or greens, ample and comfortable furniture, some good books, a few good pictures—everything necessary, nothing superfluous. It means light, clean, dainty sleeping-rooms, where every article spells a good night's rest and forty winks in the afternoon as well. It means, too, a convenient, sanitary kitchen furnished with the true essentials: good light, good ventilation, a good stove and enough utensils to make the daily tasks of keeping a house clean and neat, a dream of pleasure rather than a nightmare.

And now comes the last injunction, "glorify"! Martha, do you see any place you can fit that word into a farmer's wife's housekeeping? Certainly you do! Is not home-making the highest, most important work that can fall to the lot of woman? And being so important, is it not worthy the housekeeper's best effort and truest thought? It demands much more than her physical strength, it calls for her intellect, her heart and all the best that is in her. She cannot give these if the body is racked with weariness, her brain fagged and her heart sore because she has spent herself with the "common tasks." Don't misunderstand, Martha; I do not belittle the daily round of duties. Why, even a cup of fragrant tea is vital if it is made at the right time. But the progressive housekeeper must be so thoroughly mistress of herself and her work that she can glorify her task, because she can see beyond the present to the fulfilment of the future.

There are better things for our boys and girls than jam for supper or embroidered pillow-slips and elaborate bedspreads. I know busy housewives who get up early and go to bed late, in order that they may have crocheted bed-covers and Hardanger centerpieces. Those same women will tell you that they haven't time to read, or spend a social hour with a neighbor.

I have written much about making work lighter for the farmer's wife, and still there is another thing quite as needful if we would have our country homes as delightful as they were intended to be. And that is, we must not neglect the social side of life. We older women will be happier and healthier for it, and it is the very life of our boys and girls, in fact we cannot expect to hold them upon the farm without it. In some way we must so simplify our mode of living that we shall have time and inclination for the spiritual development of ourselves and our families. If we have the desire for good books, good lectures, good music, we will find a way to have them in the country as well as in town. I tell Hiram, when we discuss these things, that all that is necessary to bring the best of the city out to the country is united effort in the community, determination and some cash spent with wisdom. If every farmer's wife and her family in a radius of five miles sets out to live that housekeepers' motto for just one year, there will be a lyceum bureau in full operation in that community within a year.

I didn't intend to make this such a long letter when I started, but it seems I always have so much to tell you. I sincerely wish that you would try my motto and report progress if you doubt my prophecy.

Your Country Sister

Like Yours and Mine

By Gladys Hyatt Sinclair

AN ORDINARY home—O yes! just one among the rest;
An ordinary mother doing just her simple best;
A common father working with the common father's pride
To keep all snug and comfy and to let no ill betide.

An ordinary home, beset with ordinary cares
And filled with common love that laughs and cries, and takes and shares.
A fortress well battalioned with the forces Work and Play;
A kingdom desolated if the queen but steps away.

An ordinary home—yet girt with its own atmosphere,
Unlike the breath of any other home or far or near;
That breath that cannot follow us, but waits us when we come
Back to that choicest gift of God, an ordinary home.

It's Baker's and It's Delicious



Made by a perfect mechanical process from high grade cocoa beans, scientifically blended, it is of the finest quality, full strength and absolutely pure and healthful.

Sold in 1/5 lb., 1/4 lb., 1/2 lb. and 1 lb. cans, net weight

Booklet of Choice Recipes Sent Free

Walter Baker & Co. Ltd.
Established 1780 Dorchester, Mass.



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This is just what it means to you to have this first of all kitchen needs—the

ENTERPRISE

Meat and Food Chopper

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Family size \$1.75; large size \$2.50

Enterprise Sausage Stuffer and Lard Press gives more money from the farm killing. Enterprise Cherry Stoners, Sad Irons, Fruit Presses—made on honor—give best results.

Look for the name Enterprise

Send 4c in stamps for our economy recipe book, "The Enterprising Housekeeper."

THE ENTERPRISE MFG. CO. OF PA.
Dept. 71 Philadelphia, Pa.

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ONE LAMP or BURNER GIVEN

in each neighborhood. Send postal with name and address ask for cat- Ball sold over 1000 on money had alogue M. AGENTS guarantee; not one returned. Bruner sold \$300 in 15 days. Ask for liberal agency proposition. Sample lamp furnished. MANTLE LAMP COMPANY, 120 Aladdin Building, Chicago, Ill.



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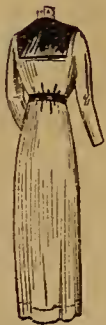
Circulation Department

FARM AND FIRESIDE
SPRINGFIELD, OHIO

Mid-Season Afternoon Gowns in New Styles

Showing Novel Ways of Using Trimmings and Contrasting Fabrics

Designs by Grace Margaret Gould



No. 1943—House Dress with Princesse Panel
Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36-inch bust, eight and one-half yards of twenty-seven-inch material, or six and one-fourth yards of thirty-six-inch material, with three eighths of a yard of lace and three fourths of a yard of velvet for trimming. This is an especially useful pattern to own, as a number of different gowns for different occasions may be made from it. For instance, it is a practical design for a simple house dress and yet it is also smart for an afternoon or street costume



No. 1944—Work Gown

Pattern cut for 32, 36, 40 and 44 inch bust measures. Quantity of material required for medium size, or 36-inch bust, six and one-half yards of twenty-two-inch material, or three and one-fourth yards of forty-four-inch material, with five eighths of a yard of contrasting material twenty-seven inches wide for trimming



No. 1948—Plain Waist with Frills

Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Material for medium size, three and one-fourth yards of twenty-two-inch material, with three-fourths yard of satin for the belt and one-fourth yard of forty-five-inch net for frills



No. 1949—Plain Skirt Buttoned in Front
Cut for 22, 24, 26, 28, 30, 32 and 34 inch waist measures. Material for 26-inch waist, five yards of twenty-two-inch material



No. 1952—Kimono Waist with Side Closing
Cut for 32, 34, 36, 38 and 40 inch bust measures. Material for medium size, or 36-inch bust, two and seven-eighths yards of twenty-two-inch material, with one and one-eighth yards of all-over lace, twenty-two inches wide, and five eighths of a yard of satin

No. 1953—Gored Skirt with Side Closing
Cut for 22, 24, 26, 28 and 30 inch waist measures. Material for medium size, six and three-fourths yards of twenty-two-inch material, or four and one-fourth yards of thirty-six-inch material, with one and one-fourth yards of satin for panel

THERE is nothing like the simple, and very simple, house gown for home wear. If it is the right sort, it will be comfortable to wear while working in the house, it will be easy to get in and out of, and it will be smart and trim-looking for more or less dress-up occasions. All of these good points are found in the gown, pattern No. 1944, shown in the center of this page. It is an easy garment to make and unusually smart and up-to-date in style. It is cut in one piece, the fulness being held in at the waist-line by a wide belt.

This belt is in a contrasting color and so are the bands that trim the kimono sleeves. Even a kimono wrapper is not as simple and easy to make as this dress. The woman with a little ingenuity can add greatly to the effect of this house gown by working an attractive stencil design around the neck, the bottom of the skirt portion and on the sleeves. Good materials for this dress are pongee, soft crash and light-

weight flannel. Other smart yet practical dresses are also shown on this page. For every design illustrated we supply a ten-cent WOMAN'S HOME COMPANION pattern. In ordering patterns, be sure to send your order to the depot nearest your home. Addresses of the pattern-depots are: Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.

It is usually a difficult task to choose just the right new clothes for spring and summer wear. It ceases to be a difficult task, however, for the woman who uses the catalogue of WOMAN'S HOME COMPANION patterns as her guide in making a correct selection. The new spring catalogue will be ready for distribution March 20th, just one month from now. Its price will be four cents, and it may be ordered from any of our three pattern-depots.

Woman's Home Companion Patterns

You will surely want to have your clothes right in style, and yet you will want them to be practical clothes. For this reason you will want to make them from WOMAN'S HOME COMPANION patterns, because they are the patterns that are accurately cut and graded, plainly lettered and notched, are easy to put together, are simple in design, and yet possess a distinct style which characterizes them as smart. For all these reasons you will be interested in

Our Special Premium Offer

To any FARM AND FIRESIDE reader who sends us one new subscription to FARM AND FIRESIDE, at the special club price of thirty-five cents, we will give, as a premium for the subscription, any one WOMAN'S HOME COMPANION pattern. Send the subscription to, FARM AND FIRESIDE, Springfield, Ohio.



No. 1950—Waist with Shoulder Plaits

Cut for 32, 34, 36 and 38 inch bust measures. Material for 36-inch bust, four yards of twenty-two-inch material, or two yards of thirty-six-inch material, with one-half yard silk, three eighths of a yard of net, and one-fourth yard of velvet

No. 1951—Skirt with Gathered Tunic

Pattern cut for 22, 24, 26 and 28 inch waist measures. Material for medium size, or 26-inch waist, nine yards of twenty-two-inch material, or six and one-fourth yards of thirty-six-inch material, and three eighths of a yard of silk

The Road to Happiness

[CONTINUED FROM PAGE 30]

whose love and sorrow were alike ephemeral; so the forlorn little figure as he remembered it, so glaringly outlined against the light streaming from the pantry, had awakened in him a wholly new tenderness.

What had seemed unforgivable before now turned trivial and unimportant beside the great fact that she needed him, and the lesser one that she had not married Jacob Jordan; but still linking in his consciousness and preventing instant action was the old fear that she did not really care for him and the new one that she would accept nothing at his hands.

Hindered by the constraint he always felt when striving to express his inmost thoughts, he blindly reached out for Caroline's help, but before she had time to answer his queries, the telephone interrupted them.

With a murmur of pardon he answered the call, and as it turned out to be a long message there suddenly flashed through Caroline's musings the recollection of her unread letters. Taking them from her bag, she saw that two were bills, but the third, addressed in rude, straggling script, she opened; then, just as Norman hung up the receiver, she gave a little cry and turned so white that he sprang toward her, demanding anxiously:

"What is it? Are you ill?"

"He's found! He's found!" she sobbed with hysterical incoherence.

"Who's found?" Norman queried.

"Joseph! Mr. Taylor!" she cried, springing up, possessed by a strange excitement that seemed to make her oblivious to her surroundings. "I knew he was alive! I always knew it!"

Norman listened in stunned amazement to her sobbing words, intensely disturbed at the sudden loss of self-control in one usually so calm. Suddenly their eyes met, and under the confused wonder of his look her excitement abruptly died out and the vivid color in her face faded away, leaving a dead-white pallor. With a trembling hand she held the note toward him, murmuring in embarrassment, "The surprise—upset me."

In silence he took the letter and read:

DEAR MISS SANDFORD—

Madam, a week ago I took in a lodger called Arthur Scott, and the day after he came he was taken down with some fever, and since yesterday he's been carrying on something awful. He's well took care of when I'm home, but I work out all day and don't like the feeling that he's left to himself. He paid a week in advance, and as the money's gone, I ain't the kind that would ship him to a hospital. In his gibberish he calls lots of first names, Laura, Frances, Caroline, but the only last one I can make out is Sandford.

I looked in the directory and found your number, and as the Caroline fits, I guess I've struck the right party, and not knowing what else to do am taking this way of letting you know the facts. Not meaning to hint nothing disrespectful, I somehow suspicion Mr. Scott ain't used to Avenue A. Anyway, the initials in his hat are J. T., but it may be second hand.

Hoping to hear real soon that he will be tended to, I am,

Yours most respectful,

MINNIE HUGHES.

I live at — Avenue A.

After a hasty perusal of the good-hearted, ill-written note, Norman bounded to his feet, exclaiming decidedly: "It must be he!"

Caroline rose shakily. "How awful it all is! I can't believe that the long suspense is over at last! I can't believe it!"

"How could he run away from his responsibilities?" Norman marveled contemptuously. "It's hard to feel sympathy for such a man."

"He was always mentally brilliant, but morally weak," Caroline answered, her voice filled with a vaguely tender regret. "He was always the same."

Then for a moment both were silent, while in their minds Mr. Taylor lost the pathetic status his tragic disappearance had given him and became once more an ordinary human being with all of his old failings and weaknesses unchanged.

Caroline was the first to recover herself. "Come," she begged, "we must go!" Then a happy thought seemed to strike her.

"Norman," she exclaimed, "if it truly proves to be Mr. Taylor, you can go and take the news to Mrs. Taylor and Frances! It's your chance!"

The man smiled into her shining eyes, his own gleaming with happiness.

"Heaven-sent, isn't it?" he smiled. "I'll go 'as the bearer of good tidings.'"

Chapter XIV.

WHILE so much was happening to her advantage at Norman's office, Frances, entirely unconscious of the impending change in affairs, was absolutely despondent.

She had heard from her mother and Clara full details of Norman's coming, and Mrs. Taylor had not been slow to advance the theory already lurking in the girl's mind, that Norman had come there on purpose to humiliate her, declaring that it wasn't possible that he didn't know of their whereabouts.

Frances listened to her mother's indictments in dull apathy. What difference did it make why he had come? He had been there, he had seen her in her darkest hour, working like the poorest slavey, and he had gone away! Her humiliation was complete. In the midst of Mrs. Taylor's bitter harangue, Clara came to the door, a great sheaf of bills in her hand.

"Lawsy, Mis' Frances," she exclaimed, handing them to her, "while I was makin' up Miss Lawrence's bill I heard her tell Mis' Branscom that she was going to leave,

and Miss Branscom allowed she'd go, too! Maybe they're just talkin', but—they sure do love their eatin' and—"

"Oh, Clara," her mistress remonstrated feebly, her face blank, "tell cook to have an especially good lunch, won't you? I—I want them to stay!"

Clara promised and shuffled out of the room, and Mrs. Taylor looked at her daughter in silent irony as she opened the bills.

It was the first of February and supplies were at their highest. The size of the bills dismayed the girl. Butter, eggs, milk, all of the table accessories which she had always looked upon as "little things," now loomed up as tremendous items. With a sinking heart she realized that she had not the money to pay her indebtedness. "I didn't know people *could* eat up such a tremendous lot of money," she sighed desperately, "and then say that the table was poor." Her voice broke in a choking sob, as she held up the reckoning from the fish-market, "Eight dollars for a few horrid wriggly lobsters when they had them by the barrel! What can I do, Mother? I've tried so hard."

Before Mrs. Taylor could answer, Clara once more put her head inside the door.

"The groceryman is he'ah fo' the o'der, Mis' Frances," she announced.

A shiver ran through the girl's body at the very thought of buying more food with those enormous bills still unpaid; but she rose and followed Clara, glad to leave her mother's presence.

On the way through the lower hall the bell rang, and Frances paused, while Clara answered the summons.

"It's the rent," she reported after a moment, turning from the wide-open door.

Frances took the little slip and looked at it quakingly. Two hundred and seventy-five dollars for rent and interest on this mortgage! She looked at the man who stood without holding a wallet full of such slips. "The people who get all this money must be very rich." She smiled wistfully, a new respect for money in her voice.

The man laughed comfortably. "They sure are, Miss," he agreed. "Mr. Tolcott and Mr. Jordan especially."

Frances was conscious of an inward shock. "Mr. Jordan!" she repeated instantly, "which Mr. Jordan?"

"Jacob, I think his name is."

The girl's face blanched. She felt suddenly terror-stricken, as if she were slowly but surely being entangled in a net from which there was no escape.

"Has Mr. Jordan anything to do with the actual renting?" she questioned tensely.

"Yes, Miss, that's his department."

Frances nodded and dismissed the man dumbly. In a daze she went to the kitchen and gave her orders, then returned to Mrs. Taylor's room.

"Jacob Jordan is the man who rented us this house," she announced dully, then as her mother looked up in startled amazement, she went on to tell of her accidental discovery. She felt crushed, beaten. All of her efforts seemed to have led nowhere. All of the terrible old feeling of helplessness swept over her with fresh force. It seemed almost useless to struggle any longer. It seemed as if she knew what her mother was going to say before Mrs. Taylor opened her lips.

"Frances," that lady began after her first exclamation of surprise, "perhaps you'll be willing to admit now that you have done the finest man I know a grave injustice. Instead of trying to force you to marry him, he had helped you to independence in the kindest, most delicate way."

The girl felt that her only safety lay in flight, for she was frightened at the eagerness with which she listened to her mother's eulogy; how glad she was to feel that perhaps she had been mistaken in her estimate of Mr. Jordan.

"I don't want to accept his kindness," she insisted desperately, "and by next month if I don't do better—his charity! I'll never be able to pay the rent! What shall I do?"

Mrs. Taylor secretly rejoiced in this crisis. She had been waiting for it, and immediately began her campaign.

"Don't come to me for sympathy," she answered dryly. "You know what I have always thought of your qualifications as a boarding-house keeper! I'd scrub floors for you if it were really necessary, but when you deliberately submit me and yourself to these disgusting situations out of choice, when you deliberately persist in refusing a splendid man and prefer instead to deny your mother every comfort, yourself every luxury; since you prefer to be a household drudge and get old and worn before your time, you can't expect me to aid you!"

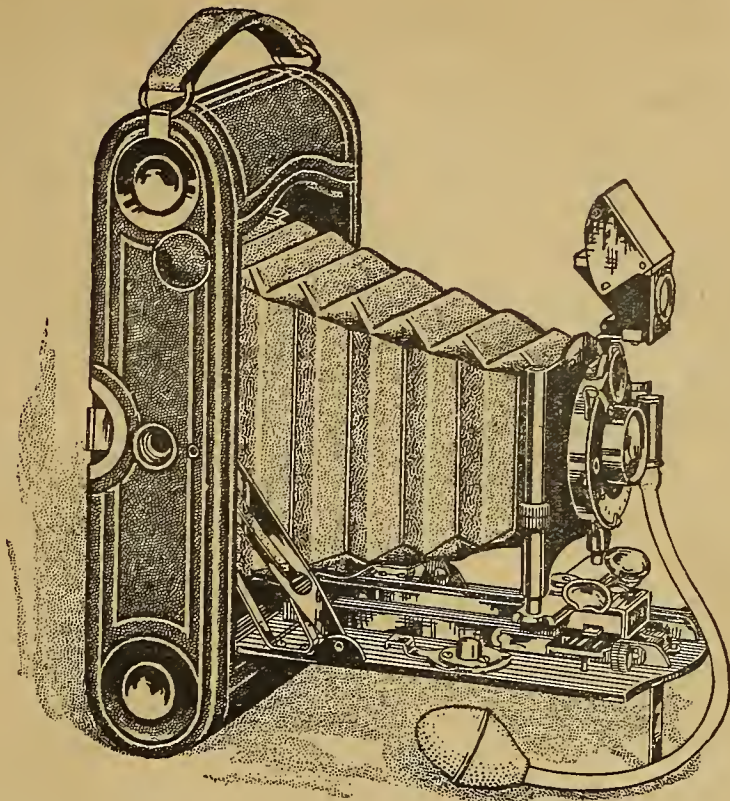
Mrs. Taylor's words sank deep. She had timed her attack well. Frances was exhausted, worn out by her unequal struggle. The sudden uncovering of Mr. Jordan's apparent generosity confused her. Her sense of right and wrong seemed stunned. She had no answer to her mother's tirade.

Mrs. Taylor noted the girl's mute acquiescence, then played the trump-card which fortunate chance had put in her hand.

"Mr. Jordan telephoned this morning, asking if he might call and take us for an auto ride this afternoon, and I said 'yes.' I should think his persevering kindness would touch you, if there was no other consideration."

Frances felt her determination to resist her mother's plea vanishing. She was only conscious of the one overwhelming desire to escape from her responsibilities; to save herself from sinking slowly into the terrible abyss of debt. All legitimate supports seemed to have failed her. Jacob Jordan was her only deliverer! Suddenly one of her quick movements sent the bills in her lap tumbling to the floor.

"I can't stand this life!" she sobbed desperately, "so if Mr. Jordan still wants me—I'll marry him!"



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Korstad (Minn. farmer) received \$2,212.13 in 2 weeks; Zimmerman (Ind. farmer) \$3,856 in 30 days; Stoneman (Nebr. photographer) \$3,841.68 in 60 days; Rasp (Kansas agent) \$1,685 in 73 days; Juel (Canada clerk) \$6,500; Oviatt (Iowa minister) \$4,000; Hart (Va. farmer) \$2,000; Wilson (K. cashier) \$3,000 in 30 days; Beem (Kans.) averaged \$164.25 weekly for 3 months; Langley (Dak. liveryman) \$115 first day. No wonder these men bless the day they joined Fritter's \$1,000 class. Reads like fiction, yet it's the gospel truth

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Address Fritter personally today—make him prove his claims and above all that you too can get \$1,000. Don't accept anything without proof. First get Fritter's entire proposition—it's free. Then decide. Just a postal will do.

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THE GIFT CLUB

Jean West

Secretary



Busy Days

in the Club!

MY, BUT it does seem good to be able to draw a full, deep breath! I've been so busy during the past month that I've scarcely had time to breathe! Such a wonderful month we've had in The Gift Club. I knew, of course, when we organized the Club that there were a great many FARM AND FIRESIDE girls who would be delighted to join such a Club as ours and get for themselves all our beautiful gifts without spending a single penny. But, gracious me, I didn't think that there were *thousands* of you waiting eagerly to be asked to join our Club! And the best part of it is that we do not have to turn anybody away. I can find a place for you all—just as many as care to come. We are all busy and happy and successful together, and we are never so joyful as when we open the door of the Club to a new member!

Our Club girls are all just as enthusiastic as they can be over our new monogrammed Club stationery. And I do not wonder. It is so attractive, and the design of the monogram is wonderfully pretty. This Club paper has carried hundreds of delightful little notes from Club members living in one part of the country to those in other states. I tell you, we keep Uncle Sam busy these days.

And the letters that come here to my office! I just wish you could see some of them. They pulsate with life and happiness and the joy of earning!

The joy of earning! Do you know that joy? Have you ever experienced the pleasant, "comfy" feeling of getting something that you very much want and getting it without a bit of help from anybody? No? Then do join The Gift Club with the rest of FARM AND FIRESIDE's girl readers and find out how delightful it is to want a thing, do a little bit of work and, presto, you have it! I have had to lay in an extra supply of bracelets and gold lockets and chains for our Gift Cupboard. There has been a constant demand for them since I first offered them to our Club girls.

Just listen to this letter from a Club member in Michigan, who received her bracelet a few days before Christmas:

DEAR MISS WEST—

I wish you could know how happy it made me to get that lovely bracelet! My cousin Florence was here visiting me when it came, and I held it up before her envious eyes. I do believe that she will join our Gift Club now so that she can have a bracelet, too. I never saw one that I liked better. Everything that you have sent me so far has been just as you promised—good in every way. M. K.

And that's only one of the many letters that I've had from our girls who are delighted with the presents that they have received from the Club.

Do let me read you this letter from a very young girl:

DEAR MISS WEST—

How can I ever thank you for such a beautiful ring, and it is just the right size. I wore it to school to-day, and I wish you could have heard all the questions the girls asked about it. I told them if they wanted to earn one, to write to Jean West, and she would tell them how to go about it. They are all just as curious as I was before I joined. I think The Gift Club is simply fine, and I'm glad I didn't lose any time in joining. K. E. M.

I wish I had room for more of these letters.

There are two little girls in the north—~~part of~~ ~~one of~~ ~~the~~ ~~best~~ ~~of~~ ~~the~~ ~~country~~ ~~who~~ ~~will~~ ~~be~~ ~~rightly~~ ~~happy~~ ~~that~~ ~~of~~ ~~this~~ ~~week~~ ~~when~~ ~~they~~ ~~receive~~ ~~the~~ ~~two~~ ~~worst~~ ~~skating~~

toques that I have just sent off to them. They are the nice stretchy kind of caps, you know, that pull way down over your ears and cheat Jack Frost at his own game.

And there's a busy little farmer's wife down south in Dixie who will receive a vacuum cleaner from the Club just as soon as the expressman can carry it to her. She wrote me, when she joined the Club, that above *all* things she wanted a vacuum cleaner. And now, in less than a month, she will have it! Does this seem like a miracle to you? Join our Club and see how we work our miracles.

Our Gift Club girls are very fond of embroidery—to judge from the number of embroidery packages I've been sending out during the past month. But I'm not surprised that our girls have been eager to get this package. When I planned it for you, I knew just how delighted you would be with it. The package contains a corset-cover design stamped on fine-quality nainsook, a centerpiece design stamped on pure tan linen, and thin perforated tissue-paper patterns of a lingerie hat, a shirt-waist, a skirt panel, belt, collar, jabot, baby's cap, shoes, etc., a complete alphabet, two doilies and many other useful designs. And there is also a stiletto for punching eyelet work, a cake of stamping preparation, a distributor and full directions for stamping in every package! During the winter you will have plenty of spare time for embroidery, and I do wish you would make up some of these designs. You will be delighted with them. I'll be glad to tell you how you may claim the embroidery package if you are interested.

There are many other things for you in The Gift Club besides the actual, material presents that you will receive. It does not commit you to a single thing to write and ask me to tell you our Club's secret. If you do not care for our plans, you are not obliged to join the Club. But I just *know* that you will like them and everything else about our friendly organization. We have jolly good times together, and we are eager for you to share them.

Remember that I am eager to welcome every FARM AND FIRESIDE girl into The Gift Club. She may be young or old, married or unmarried. There is a place in the Club for you all, and I do so want you to join. There are no dues or expenses connected with the Club. Just a line of inquiry on a postal card will bring a prompt reply. "Do it now!"

Cordially your friend,

Jean West

Secretary, The Gift Club,
FARM AND FIRESIDE, Springfield, Ohio.

If Lincoln Were President Now

ONE of the big articles in the February **AMERICAN MAGAZINE** came about this way:

Miss Tarbell, Ray Stannard Baker and the rest of us were discussing the increased cost of living, the tariff, and the trusts.

Suddenly Baker asked, "If Lincoln were in Taft's place, what would he do?"

"What Would Lincoln Do Now?" It flashed into our minds that here was a subject of tremendous import. "What would he say of the Tariff and the Trusts—of Standard Oil?"

Instinctively we turned towards Miss Tarbell—the historian of Lincoln, of the Tariff, and of Standard Oil.

And so, in **THE AMERICAN** for February she shows how Lincoln would have approached the question of the Trusts and the Tariff. She "casts up accounts" as Lincoln used to do.

We like to believe that Lincoln would approve of **THE AMERICAN**. He was first of all friendly, a good companion. He was an impartial judge of facts. And he loved a good story. The February number begins with a mighty good story—a romantic modern tale entitled "The Bust of Lincoln"—and ends with "What Would Lincoln Do Now?" in "The Interpreter's House." In between are many good things.

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The American Magazine

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(or 381 Fourth Avenue, New York City)

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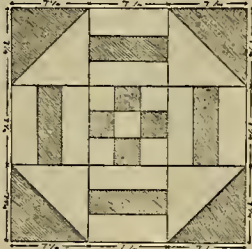


The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of \$2.00 for the two best descriptions (with rough sketch) of original, home-made household conveniences or labor-saving devices, and \$1.00 for the third best or any that can be used. We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. All copy must be in by the second of March, and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copies, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

An Economical Quilt-Block

This attractive design is economical both of time and material, for little odd pieces may be used for the corner diagonals. Two colors, a dark and a light, should be used. Begin by making a small block of two colors, according to the pattern. This is easily done on a sewing-machine, which is quicker than hand-sewing. MRS. H. S., New Jersey.



Rich Boiled Pudding

One-fourth cupful of butter, one-half cupful of molasses, one-half cupful of milk, one egg, one and one-half cupfuls of flour, one-half teaspoonful of soda, one teaspoonful of salt, one cupful of raisins, seeded and cut in pieces. Mix together the molasses, milk, egg, well beaten, and melted butter. Add one-fourth cupful of sugar. Then the dry ingredients sifted together, and the raisins. Turn into a buttered basin, and steam two and one-half hours.

Sauce for the above: One cupful of sugar, piece of butter size of an egg, one tablespoonful of flour, stir together with a little cold water, then pour boiling water on until sufficiently thick. Season with nutmeg or lemon. MRS. B. K., Illinois.

Simple Cough Remedy

Beat white of an egg, add one teaspoonful of sugar and eight drops oil of tar. Dose is a teaspoonful every two hours. MRS. B. K., Ill.

Bathtub-Cleanser

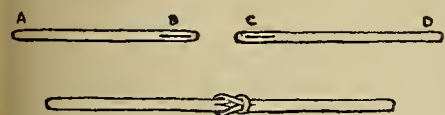
For basins, bathtub, etc., that have become badly discolored, apply muriatic acid with a small cloth. Several applications may be necessary in extreme cases, but I know of nothing that gives more satisfactory results, as it cleanses perfectly and, ordinarily, does not injure hands. K. M., Florida.

To Destroy Cucumber-Bugs

If those who have trouble raising cucumbers, on account of the little striped bugs destroying the plants, will try putting Paris green in the hills before planting the seeds, instead of putting it on the plants, they will have no trouble. I have tried it for a number of years and have found it pays and it is done very easily. MRS. E. L. B., Indiana.

To Tie Carpet-Rags

In preparing rags for carpets, it is much easier and quicker to tie half of the strips together than to sew them. Cut an opening in one end of each piece of cloth. Take the end marked D and put it through the opening



B. Then take A and put it through the opening marked C; pull on the ends marked A and B, and you will have your carpet-rags well knotted together. This will double the length of the rags, so that only half as much sewing is necessary as under ordinary conditions, when all the rags are sewed together. MRS. E. E. G., Minnesota.

A Help for Mothers

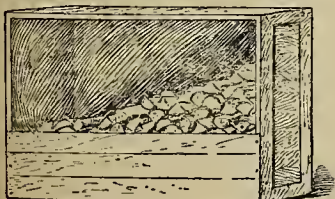
Our boy of five kept kicking the covers off at night until I took two small quilts and sewed them together, except at one end. We slip him into the quilts, put a pin on each side of his neck and leave his arms free, so now he never gets entirely uncovered. I find it much better than pinning covers to the sheet. MRS. G. W. C., Colorado.

Hint for Baking-Day

When you take your bread from the oven, rub water all over the outside of loaves and cover well with cloths. Your bread will become nice and soft. I. C., Oklahoma.

Wood-Box and Table Combined

One of the most useful things in my kitchen is this wood-box, the top of which can be used as a table. It is peculiarly adapted to a very small kitchen, as it has a place for the wood



beneath, and the top is used for all the operations of preparing food. The box simply has the front taken out, except for the lower three or four boards. Extra nails are used to hold it very firmly. MRS. A. W., Texas.

To Boil Cracked Eggs

Add a teaspoonful of salt to the water, and the eggs will cook without any of the white coming out. Miss A. C., Delaware.

Housemother's Friend

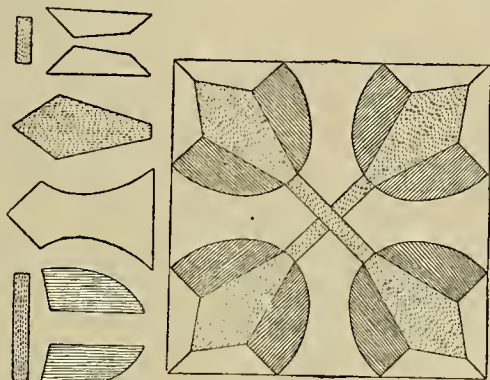
A roll of surgeon's adhesive plaster is certainly the mother's friend. We use it in all emergencies, from surgical operations to fastening vines and rose-bushes to fences and brick walls.

A bandage around a finger or indeed any other part of the body can be securely fastened beyond the possibility of slipping by a strip of surgeon's adhesive plaster. Fasten one end to the last turn of the bandage, carry the strip once or twice around, and let the plaster lap over onto the skin beyond the bandage. It can be removed easily with warm water.

Toys of all sorts can be mended with this invaluable adhesive plaster, and since it does not stiffen like court plaster, it can also be used to mend rents in woolen clothes and furs. M. S., Massachusetts.

An Elaborate Quilt Design

This tulip pattern is very elaborate, but makes a beautiful quilt. At the lower left-hand corner will be seen the various shapes of cloth needed to make up the design. Great care must be taken with the sewing, else the square will not lie perfectly flat. In enlarging this drawing to use as a pattern, be careful to enlarge each dimension. For instance, if you make the pieces five times the size of the drawings be sure that you multiply the length, as well as the width by five. (EDITOR'S NOTE—We do not furnish patterns for either this or the Economical Quilt-Block.)

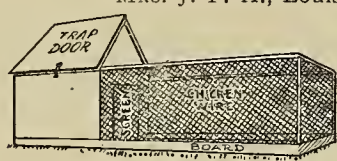


Good Use for Potato Water

Do not throw away the water in which the potatoes are boiled. Save it, and use in gravy instead of clear water. It makes the gravy much better. A. E., Indiana.

Coop for Setting Hen

Use a box of wood, with a peaked roof, like illustration. Half of the roof is hinged, so as to give room to examine the hen when near hatching-time, without disturbing her. The enclosure beyond it is made of chicken-wire, strengthened at the base by a small fence board. Place feed and fresh water in the enclosure each day. Let her choose her nest where she will. If you are not satisfied, change the position of the nest after night, and the hen will never leave it. She will leave her nest for food each day, and hatch more evenly than if shut in and removed daily. After being hatched, the chickens are left in this little home and grow up there unless the owner chooses to turn them out to shift for themselves. The yard is removable to new spots of fresh grass. As the top has a trap door, the house is easy to clean. When the chickens are old enough, the nest is removed and roosts are placed on cleats. This kind of coop is sanitary and free from mites, as well as rat-proof, and has proved invaluable to me. MRS. J. P. H., Louisiana.



Cleaning Burnt Dishes

Dishes which have become brown and burnt from baking in the oven may be easily cleaned after they have stood an hour in borax water. MRS. J. B. H., Tennessee.

I would always have the bath-room and every-day sleeping-rooms on the first floor if possible. I have tried both and know it is a great saving of a woman's strength not to climb up stairs every day.

Another help in the home is a medicine-closet, made from common boxes. This must be put up high out of the children's reach.

Delicious Broiled Ham

When broiling ham, rub some brown sugar on it before cooking and, when done, it will have nearly the same flavor as baked ham prepared the same way. C. S., Ohio.



From a Photograph Showing the Last Step in Locating the Exact Center of Population of the United States.

"The Center of Population"

A Title that Fits Every Bell Telephone

From the census of 1910 it is found that the center of population is in Bloomington, Indiana, latitude 39 degrees 10 minutes 12 seconds north, and longitude 86 degrees 32 minutes 20 seconds west.

"If all the people in the United States were to be assembled in one place, the center of population would be the point which they could reach with the minimum aggregate travel, assuming that they all traveled in direct lines from their residence to the meeting place."

—U. S. Census Bulletin.

This description gives a word picture of every telephone in the Bell system.

Every Bell telephone is the center of the system.

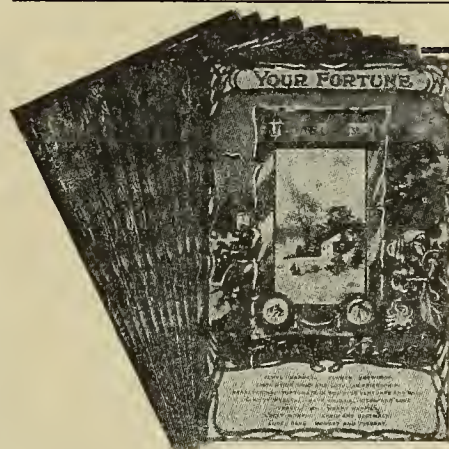
It is the point which can be reached with "the minimum aggregate travel," by all the people living within the range of telephone transmission and having access to Bell telephones.

Wherever it may be on the map, each Bell telephone is a center for purposes of intercommunication.

To make each telephone the center of communication for the largest number of people, there must be One System, One Policy and Universal Service for a country of more than ninety million.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy One System Universal Service



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Springfield, Ohio

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KALAMAZOO STOVE CO., MRS. Kalamazoo, Mich.

Save \$5 to \$40

A Kalamazoo Direct to You

I'll send you this NEW work-saving Farm Tool Grinder for a Free Try-out on your farm

—C. J. LUTHER, President

I don't ask you to buy it. Just try it to your heart's content. No money needed—no red tape—no promises to make. Why, compared with your old grindstone, it is nothing but child's play to do the toughest job of grinding on the fast-cutting Dimo-Grit wheels of this remarkable tool grinder.

You can sit on this grinder and in a few minutes do a job that would take an hour's hard work on the grindstone. With grinding and sharpening made so wonderfully easy, you will never again work with a dull tool, and all your everyday work will go faster and easier for yourself and horses. You will save yourself money, time and work. But I don't ask you to take my word—try the entire farm outfit free is all I ask—gum your saws, grind your cultivator blades, plow points, ensilage knives, sickles, axes and every other tool and implement on your farm—and then if you don't want to keep it, send it back at my expense.

Dimo-Grit cuts hardest steel as emery does soft copper

Dimo-Grit crystals are artificial diamonds—made of the same elements as real diamonds, fused in the terrific heat of the electrical furnaces at Niagara Falls—a heat beyond the measurement of science, in which fire brick melts like beeswax and is vaporized like water in a kettle. Genuine South African diamonds are no harder than Dimo-Grit crystals—on the wheels of the Luther Farm Grinder turning 4000 revolutions per minute by foot power, Dimo-Grit peels steel off in tiny shavings—does not develop heat—no need of cooling with water—no danger of drawing temper. Dimo-Grit is the newest artificial diamond sharpening substance—the wheel for steel—leaving smoothest, keenest edge. 25 times faster than grindstone—10 times more efficient than emery. Carborundum wheels supplied when wanted.

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Foot and engine power—14 farm attachments—17 extra attachments to choose from

No other machine is built like this new Luther Farm Tool Grinder—it is all steel and iron—nothing to wear out—steel shaft drive like automobile—enclosed gearing ball-bearing. Costs no more than cheap chain drive grinders. Runs as easy by foot as a sewing machine. The 14 farm attachments equip you to do all farm grinding. From the other attachments, such as jig saw, rip saw, lathe, drill, etc., you can select what you want. No other machine so moderate in price saves in so many different ways. Five years' guarantee. Over a half million LUTHER TOOL GRINDERS now in use.

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Milwaukee, Wis.

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Luther Grinder Mfg. Co.
235 STROH BLDG., MILWAUKEE, WIS.



Fourteen Machines in One—1, fine Dimo-Grit wheel; 2, coarse Dimo-Grit wheel; 3, universal tool rest; 4, chisel and plane bit guide; 5, Dimo-Grit razor hone; 6, Dimo-Grit scythe stone; 7, Dimo-Grit saw gummer; 8, Dimo-Grit polishing wheel; 9, medium Dimo-Grit wheel; 10, buffing wheel; 11, Dimo-Grit oilstone; 12, Dimo-Grit pocket hone; 13, sickle grinding attachment; 14, disc grinding attachment.

Save time and money in many ways

The forge attachment alone makes this machine a big money-saver. This low-priced forge does all the work of a blacksmith's forge, saving you lots of repair bills every year, to say nothing about the time saved in getting repairs done quick in the busy season.

With the flexible shaft attachments you can sharpen ensilage and threshing machine knives and mower guards, flutes on corn huskers, etc., without removing them—horse shoe calks, clip horses, shear sheep, etc.

The tool rests and attachments automatically give proper bevel to tools, enable a 14 year old boy to do difficult grinding, such as grinding discs, gumming saws, sharpening twist drills and all other edged tools.

Milk Tester alone pays for grinder many times over

Over one-third of the cows of America do not produce enough butter fat to pay for their "keep," as any agricultural college or station will tell you. The Babcock milk tester attachment will show you which cows are making money for you, and which are losing money. This alone pays for complete outfit.

Thousands of letters like this from users

I have used my grinder just about 5 years now and still in good shape. You can't wear one out. I have ground discs plow coulters, etc., and it is the only way I can keep my cold chisels sharp. It is a perfect drill sharpener for all kinds of tools, especially for mower sickles. It never draws the temper from any steel if used right. You claim it cuts twenty-five times faster than an old grindstone. Your claim is true; it will do it and never draw the temper. When the point of a plow gets dull and tries to crowd itself out of the ground, you can grind a perfect point in a few minutes. There are a lot of your tool grinders in this neighborhood and they all like them as well as I do mine.

HENRY KLOGES
Miller, S. D., Nov. 20, 1911.



HORSE CLIPPER

SHARPENING ENSILAGE KNIFE

MILK TESTER

POWER ATTACHMENT

FORGE ATTACHMENT

FEB 22 1912

U.S. Department of Agriculture

FARM^{AND} FIRESIDE

THE NATIONAL FARM PAPER

EVERY OTHER SATURDAY

ESTABLISHED 1877

FEBRUARY 17, 1912



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[CONCLUDED ON PAGE 40]

With the Editor

MAKE it a rule to answer every letter that comes to me; but there are limits to the editorial clerical force and its ability to write letters. I beg to be excused by all those who have written me about their subscriptions and to whom I have not been able to return a personal answer.

We have been drifted under by a blizzard of subscriptions. I wish I could print here a picture of our subscription department with its rows upon rows of desks, each occupied by a young woman at her typewriter, and all engaged in the work of recording subscriptions, making stencils and putting the names and addresses through the routine which they must follow before you can get your paper. There are hundreds of these girls, at this writing, working overtime. But the work has been too much for them. The supply of girls is limited, and when the force are struggling with an accumulation of business, new and unskilled girls only make the matter worse. And when subscribers fail to get their papers, and feel impatient, as they have a perfect right to feel, and write in inquiring about the matter, the task of answering them only increases the congestion.

The only way open to us is to keep boring into the work, feeling that the friends who are impatient will forgive us when they get their paper, and will understand that there was a good reason for the delay. Anyhow, please excuse me for not answering. An answer would only have made the matter worse.

THEY say that doctors don't take their own medicine. But I took some of ours this fall. After my orchard had grown up to its cover crop of crimson clover and cow-horn turnips, the rabbits flocked in and began gnawing the trees. I think the green clover and the greener turnips tolled them in from the woods. They went at the trees very energetically. We had no protectors, and in our extremity we applied that mixture of crude carbolic acid, lime, sulphur, soft soap and water mixed into a paint, described in our issue of November 11th by Mr. A. J. Rogers, Jr. It seems to work. I know it works for a while, anyhow. Two men applied it to two thousand trees in a day, and that on rather steep ground where the going was hard. The materials of this wash cost very little. Altogether, I am inclined to think it may be applied twice a season at a cost comparing favorably with the mechanical protective devices. One thing gained is that you don't have to take it off in the spring, as you do the protectors.

I HAVE received a great many letters endorsing our position on parcels post, and some criticising it. I remember one in which a little girl told me that she was a daughter of a rural mail-carrier, and hoped we wouldn't get it, because her papa would be so overworked in carrying the mails if we did.

I passed this by as only the naïve idea of a child. But when I got some letters from the rural carriers themselves, I began to wonder how grown people's minds work. One would think that the enlightened self-interest of these good men would influence them in favor of parcels post. Most men are always in favor of a change which makes their work more important. The important work is the work that serves most people and does most good. Moreover, the more important a job is, the more equipment it takes, and the more pay it commands.

I have one letter in which a rural carrier protests strongly against parcels post because of the difficulty he would be in to carry more than he now takes, and make the distance over the vile roads. He says, too, that the things the farmers think they could market would not carry very well in the same rig with first-class mail—butter, eggs and fruit.

I should think from this letter that the writer of it thinks that, when parcels post comes, he will have to carry everything in the same bag now used by him, and transport it in the same one-horse buggy. He seems to think that he'll have to load butter, eggs, hampers of fruit, live pigs, castings, honey, cream, pickles, preserves and garden sass all into the same bag with first-class mail. He appears to see himself delivering valentines with a coil of rope on one arm and a string of sausages around his neck. And all with the same horse and buggy!

This is about as far as most of the opponents of parcels post see. They should take a look at the way the thing is done in the really civilized nations of the world, where it has all been worked out. As a matter of fact, what he says about roads is mostly true. But there is no doubt that rural routes are better worked than other roads in most places, and that we farmers could be brought to a sense of our shortcomings as to roads, if the government would kindly but firmly establish a standard of roads if we were to be given delivery of goods by mail.

Our friend sees himself wrongly. With parcels post he would have a much more important position, get better pay and have a better outfit for the work. The real man is the one who wants his job magnified—whether he be a farmer or a rural mail-carrier.

For the bigger the job, the bigger the man required, and the bigger the man, the bigger the emoluments. That is the universal rule of service.

HERE's another strange case of misapprehension: A farmer's wife in Minnesota has allowed the discussions of rural life, better farming and a new kind of rural school to get on her nerves. "The farmer, as a rule," says she, "treats his wife and family much better than the city man who spends his evenings away from home." There is some truth in this; in fact, people average, in this respect, about the same in city and country. But that isn't the point at all. The point is that people are leaving the farms and congesting the cities. This is not the farmers' fault. It is the fault of conditions. People will go or stay as they are impelled by the hunger and thirst after comfort and happiness and the welfare of their children.

This woman's letter is very interesting in its protest against all efforts to stay the drift from the farms to the city. "Back to the farm!" is what she says the writers are saying, "Back to the farm, every mother's son of you, and behave yourselves!" This she condemns as offensive. And she would be right if that were the disposition or the meaning of the agitation. But she quite fails to understand that the best minds in the nation are now enlisted in the study of the question of not how to herd the farmers on their farms, like sheep, but how to change conditions so that people will prefer to stay in the country because it will be clearly the best place. Better schools, better churches, better society and better living conditions than can possibly exist in the cities are possible in the country. If possible, then why are not those engaged in studying methods for making them better the real statesmen and the real soldiers of the common good of the age?

Robert S. Squire

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47-inch Farm Fence,.....	23 1/2c
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Our handsome All Steel lawn fence costs less than wood and is much more durable. Write for Special Prices and free Catalog showing 25 designs. WE CAN SAVE YOU MONEY.

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It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

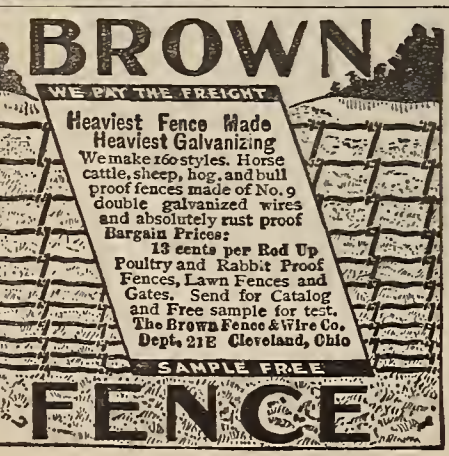
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Springfield, Ohio, February 17, 1912

PUBLISHED
BI-WEEKLY

Certain experiments made in Italy seem to prove that green plants have under certain conditions the power of fixing the free nitrogen of the air without the aid of bacteria.

The Short Ballot for the Cook

HAVE you ever sat down at a table so covered with food and that of so many kinds that you could scarcely look in the face the good woman who cooked it? You have felt guilty under such conditions?

So has every man jack of us.

We therefore propose the newest reform—the Short Ballot at Mealtime. Our wives and mothers and sisters all cook too much. They are the slaves of the Long Ballot. They set on the table a woman-killing list of dishes that makes the work harder than it should be. Potatoes, cream tomatoes, eggs, two kinds of meat, layer cakes, cookies, four kinds of vegetables, sweet potatoes, currant jelly, piccalilli, strawberry preserves, canned fruit of two kinds; apple jelly, preserved pears, cucumber pickles, plum butter, bread, warm biscuit, milk gravy, butter, cottage cheese, milk and coffee—this is a partial list of things remembered as offered at one meal on a West Virginia farmer's table not long ago—and the farmer's wife does her own work, cooks, cares for several children and does the washing!

The men need plenty, but not so many things. There should at every meal be all they can eat of one sort of "lean food," one sort of "fat food," one sort of "sweet food" and one sort of "starch food." That is, there should be protein, fat and carbohydrates. The family should have a balanced ration. Lean meat, potatoes, bread and butter, some relishes, something green and a simple dessert are enough for anyone—no matter how hard he works. Give the men enough of these, and they will not complain, if the things served are well cooked. It will pay every overworked woman, and it will pay the husband of every such woman to study the balanced ration for the family and insist on the short ballot for the cook.

A study of the grosbeaks conducted by the Department of Agriculture of the United States shows that the benefits of these birds to the farmer are immense. There are seven kinds of grosbeaks, the best known of which are the rose-breasted, called the pea-bird, and sometimes the potato-bug bird, and the cardinal, or red-bird. Protect them.

Lime

ALIMESTONE soil is a good soil. This proverb states a rule to which the exceptions are so few (if there are any) that they need not be considered. Lime is more generally needed than most of us are aware. Try a few bushels of lime on the fields you are about to sow to clover, and see if it makes a better crop. Probably the bacteria in the roots need lime. Whether you shall use caustic lime, in one of its forms, or ground, raw limestone, will depend on many things. The caustic lime stimulates the soil more quickly, and more strongly, but if too much is put on, it burns out the humus faster than the crops can use up the liberated fertility. Profuse use of caustic lime may impoverish the soil in the long run. Ground limestone acts more slowly, but it is safe. Nobody will ever put too much of it on, and it acts in nature's own mild, sedate, safe manner. But don't neglect the lime question, unless you are sure your soil doesn't need it. How about trying some lime on your farm? A few bushels on a small patch on sowing each clover-field will tell the story.

Exactly

THE following is from a report of the last meeting of the National Federation of Retail Merchants: "Joseph Baker, president of the National Federation of Implement Dealers' Association, spoke at some length and took the opportunity to refer to the parcels-post bill. If the merchants of the country through their several organizations have so far been able to prevent the passage of this measure, he believed that working together through a central association the measure would have very little chance of ever becoming enacted. 'We don't want this to be a political organization,' said the speaker, 'but we want to be in a position, through it, to bring influence to bear upon all politicians and office-holders.'"

Exactly! And if the farmers of this country "through their several organizations" have been unable to secure the passage of this measure, they now know one of the reasons why. The merchants and the express companies are small in numbers, but they bring pressure to bear where and when it counts. The farmer should do so, too.



THIS field of rape was seen in Indiana last season. Most states in the Union had similar fields. All ought to have had many. Rape is a remarkably useful crop. It may be pastured, or cut and used as a soiling crop or as silage, or cut for hay; and it may be fed to sheep, to hogs, and even to cattle when care is used in its feeding. It may or may not be sown alone. The most universal practice is to place it after another crop. Rape grows very rapidly, and after the main crop has been removed, will quickly supply an abundance of forage. Sow it in drills, or broadcast it—the drill method is best for pasture purposes; then feed it judiciously. It will add profit to every farm.

What Ohio Wants

OHIO has in session a constitutional convention engaged in the very important work of giving that state a much-needed new basic law. The work is momentous. The results of the election seem to make it inevitable that the new constitution shall provide for the initiative and referendum. This has been the great issue.

There would not seem to be a mandate on the part of the people to the convention to go much farther. Given a constitution which is amendable by majority vote of the people, and a workable direct legislation section, and the future may be left to the untrammelled development and operation of public opinion.

The convention has not been called to send the old constitution to the scrap-heap, but to alter it in the direction of making the people able to govern themselves in freedom.

The people will be content with nothing less than this, and they will consent, we believe, to very little more.

Copper sulphate and other sprays sometimes fall on foliage or grass and are eaten by cows. Experiments show that the chemicals are thrown off in the urine and manure, and do not reach the milk in any considerable quantities.

A German writer notes that whenever floods have occurred in his vicinity for years cases of black-leg have followed. He finds the anthrax vaccine effective as a preventive.

The Packers' Trial

AS THIS is written several men prominent in the live-stock business as buyers are on trial for criminal conspiracy in restraint of trade in Chicago. In plain language, they are accused of conspiring to wipe out competition by criminal acts. As to their guilt or innocence any expression of opinion at this time would be unjust and improper. That is for the jury to determine. But farmers may well take keen interest in the evidence in this important case. The question as to whether or not live stock has been fairly bought is involved. The favorite method of lowering prices of farm products has been by secret combinations of buyers and dummy competition. The "dummy track bid" has been a favorite way in which the grain combine has made farmers content with prices lower than the real prices. The prices of eggs and of dairy products generally are alleged in the government's case against the Chicago Butter and Egg Board to have been illegally depressed by fake deals at lower prices than the real ones. If grain, live stock and dairy products have been so manipulated, it is well for us to know the worst. We can then act. In this connection readers may be interested in the fact that we shall soon publish in FARM AND FIRESIDE a history, by an insider, of the greatest movement of farmers which ever took place in this country to free themselves from such exactions. It will be a revelation to farmers everywhere as to two things—the iniquitous manner in which they have been robbed and the simplicity of the methods by which they may stop the robbery. The live-stock situation will be greatly illuminated by the evidence in the packers' case, or we are greatly mistaken. But it will be illuminated for those of us only who study it.

Sensible Rate-Making

THE Interstate Commerce Commission has rendered a decision of great importance to the whole country, and especially to the region from the foothills of the Rockies to the bases of the Coast Range—to Arizona, New Mexico, Colorado, Utah, California, Oregon, Washington, Idaho, Montana and Wyoming. It is a decision based on common sense. It decrees that rates on railways across the continent must be based on the distance from point to point. It takes the place of the railway rule that freights from Chicago, say, to Spokane, Reno or Albuquerque, for instance, must be just the same as if these towns were as far beyond San Francisco as they are this side of it. If the American people had been really governing themselves, no such atrocious scheme would ever have existed.

Cattle Die of Cerebro-Meningitis

DOCTOR HASLAM of the Kansas station has shown that many deaths of cattle, ordinarily attributed to frosted feed, and often called "corn-stalk disease," is really the contagious ailment cerebro-meningitis. Instead of having troubles in the stomach and bowels caused by the feed, the cattle were infested with germs, which were detected by aid of the microscope, and grown by the million in a broth made of calves' brains.

When the cause of such a disease is once learned, a successful campaign may be hoped for against it. The greatest ally of disease at any time is ignorance. There is no such thing as an unimportant fact.

The Safety of the Little Chicks

By May Ellis



Lost!

"WELL begun is half done." Far be it from me to question the truth of the proverb, and yet it seems to me there is a sort of misleading quality about it. It would be well sometimes to add an appendix, to the effect that well begun is wasted unless it is finished. It is often so easy to begin. The amateur cook makes her cake with the utmost care and deposits it in the oven with a peaceful feeling of accomplishment—*forgets* to watch the baking and it is spoiled. The farmer prepares a goodly piece of ground and plants potatoes—then gets busy with other concerns at bugging-time or hoeing-time—and alas, for the wasted beginning! One of our neighbors envied our luxuriant little strawberry-patch, and when we offered him all the plants he wanted, took them by the cart-load and set out nearly an acre. His children could pick the berries, he said, and he dreamed of large returns. But having set them out he left the rest to nature, and the children were not in the least overworked by harvesting the crop.

When it comes to raising chickens, the same principle holds good and the same temptations beset one. A really good beginning seems to have been made when you have set a willing and even enthusiastic hen upon a carefully selected assortment of eggs in a sheltered and comfortable nest. There is a sort of feeling that you have pressed the button, and it is for the biddy with maternal aspirations to do the rest. And truly she has the best intentions, but one learns by painful experience that her judgment is not always good, nor has she perfect self-control any more than some other bipeds. The sensuous pleasures of a bath in the warm sand or the more active delight of a chase, with others of her sisters, after some fortunate and greedy member of the flock who has found a particularly fine morsel and is trying to talk in a casual way with her mouth full while she seeks a corner hidden from the rest—these things will sometimes tempt the best of hens to neglect her eggs too long.

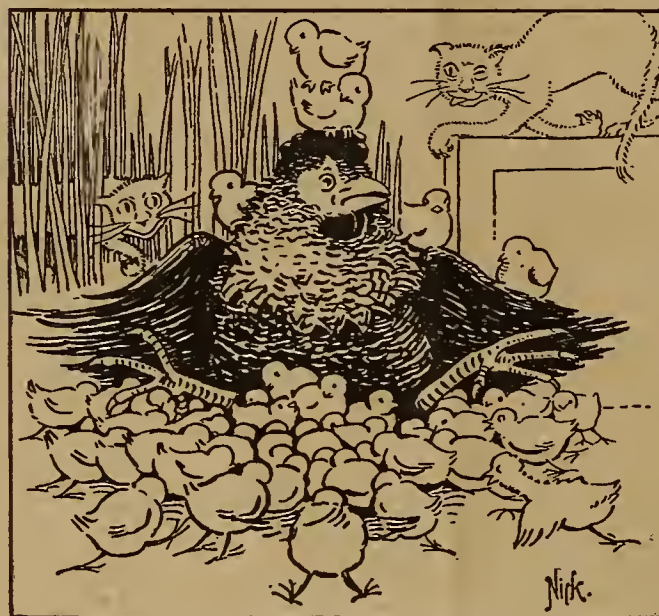
Difficulties on Every Hand

Or a laying sister approaches, envious of the sitter's pretensions of importance and nestful of eggs, and asserts with an aggressiveness that is most irritating her own right to a share in the nest. There are hot words, clash of bills, feathers fly and eggs are smashed. A student of hen nature learns to make allowance for all this and to watch the process until the time of hatching. Then, indeed, when a flourishing flock of lively chicks are fairly launched in the world, such a good beginning is made that the old-fashioned farmer casts care to the winds. Following the idea that a mother knows best how to take care of her offspring, the hen was allowed to wander free with her flock whither she would. The youthful chick was chilled by excursions through the tall wet grass in the early morning, was dragged too far afield, and strayed and lost his mother, bemoaning his loneliness with many cries. Or, to prevent ruin to the garden, the mother hen was often thrust in a little coop with her children free to stray. She reminded one, as she raged up and down her narrow bounds, clucking furiously, in an agony of restlessness and maternal anxiety, of a maniac or a desperate criminal sentenced to solitary confinement, rather than a peaceful and law-abiding fowl fulfilling her appointed destiny. Meanwhile cats and hawks, rats and skunks, were wont to abstract her defenseless offspring. And the good beginning was pretty nearly wasted.

We have practically outgrown the old ways, and yet many of my neighbors are making equally disastrous

blunders still. One of them remarked with a humorous quaintness of speech that he had hatched about forty chicks, but, having only one run and coop ready for them, had given them all to one hen. They had been killed by overcrowding in the coop and being stepped upon, quite unintentionally, by the old hen, until only half remained, and they were still dropping off one by one. "I reckon," he remarked thoughtfully, "I failed to exercise good judgment." Another man lost many of his chickens by rats, and another by hawks. Other chicks failed to grow as they should or died of cholera infantum or other infantile disorders. How many wasted beginnings, and how unnecessary!

I have suffered some of these misfortunes in my own experience and have learned how to avoid them. My lesson is stated as follows: Consider in the first place how to save time and strength while still getting the best results; otherwise there will surely be times (especially if you happen to be a woman, with some cares of the housekeeping upon your shoulders) when the work will be too heavy or the chickens will be neglected. To that end decide how many chickens you wish to raise; have coops and runs prepared, one for each flock and at least one extra. If possible, have a level piece of ground in a convenient spot—the orchard is a good place, but not in the hen-yard—and place the



"He gave them all to one hen"

runs and coops in a row near each other. The coops must have water-proof roofs and board floors. They should have a sliding door opening into the run, and this had better be of fine netting to give ventilation to the coop when it needs to be closed. It is well, also, to have a part of the roof hinged, so that it may be opened to pick out the hen or chicks when necessary. The runs should be about four feet wide by eight or ten long. I used to have the sides of boards with the top only of netting; but it is better to have simply a frame which will be light in weight, but strong enough so that the netting may be fastened upon it securely. Cover both top and sides with netting fine enough so that the smallest chick cannot get through. The height of the run depends somewhat upon your breed of hens. It should be high enough so that a hen can walk comfortably in it. The drinking-fountain must be in the run, and for convenience in filling this, it is better not to let the netting cover quite all of the top. Leave a space next the coop to be covered with a board, which should be hinged and arranged to fasten lest the mother hen push it up in some fit of temper or it be accidentally knocked off. A wide, light board fastened on it in this way serves the additional purpose of acting

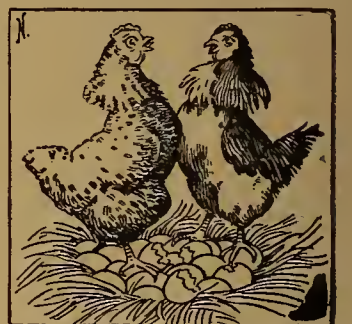
as a sort of porch for the chickens, and prevents the driving in of rain through the netting door of the coop.

A disadvantage in having the sides of the runs of boards lies in the fact that when the boards happen to be soaked with rain they are not easily handled. The doors of the coops and of the runs should be made to match exactly, so as to leave no place for a chick to slip out, and each should be like the others, so that they may be interchanged. At least one extra coop and run must be provided, so that while the chickens are out in the run through the day a coop may be slipped away and a fresh one substituted; for the coops need frequent cleaning, sprinkling with lime or insect-powder, and supplying with fresh sand or chaff. The runs are best changed at night while the chickens are in bed, shut in their coops. It would be a gain if one could have enough extra runs, and sufficient ground, so that they could be left empty until the grass grows up green again. For after you have labored through the day and when the dew has fallen and the light is dim and you get your hair caught in the trees of the orchard as you wander about moving the runs, you begin to prefer something different. However, even one or two extra runs are a great help, for not all the broods need be moved the same night. Simply move one or two and arrange the empty runs the next day.

A Good Ending

When one has paid careful attention to all these little details which do not seem to count for much, but which do make so much bother if you neglect them, and has with equal care supervised the hatching operation and filled the coops with chickens, a good beginning has been made. It is not very much of a trick to raise chickens with conveniences. Good corn-meal dough, fresh water, milk sometimes and meat-scrap, and they grow and are happy. As soon as the old biddy really wants to leave, they are better without her. Just reach in gently at night and pick her out, and put her in her old home. Then as soon as you can distinguish the pullets, put them in a coop and run by themselves. It does not matter so much about the pullets for a while, because they need not be hurried and are less likely to quarrel. But stuff the roosters all you can, to get them ready for market. Plenty of corn all the time; meat and milk, and soft mash once or twice a day to tempt their appetites; not too much space for exercise, and the run kept rather dark to tempt them to doze and be idle. The first lot I treated in this way happened to be shipped to a new firm, my special customers being just then overstocked; and they wrote me enthusiastically, "Have you any more like those? If so, send them on." They were plumper and yellower than any I had raised before. Sell them just as soon as they are marketable.

By the way, not only to darken the runs for the chicks being fattened, but to provide shade on hot days at any time, it is a good idea to have either a hay-cap or a piece of roofing-paper of suitable size arranged so as to fasten on one end of the run by loops and hooks, or in some way which will hold against the wind. "Oh, lay a stone or a block of wood on it," says the farmer, who is a mere man. Yes, of course, and lift it off every time you move the run, and lay it down and tumble over it in the dark. No, a fundamental principle of the art of raising poultry is to have everything arranged to save time and strength and patience. It pays in the end. I have been talking, of course, about chickens with the natural parent to tend them. The incubator chick deserves a chapter all to himself.



"Clash of bills"

A Modern Swindle

By E. C. Rodgers

SEVERAL thousand dollars have been fraudulently taken from the pocket-books of the creamerymen and farmers of Illinois, Indiana, Wisconsin, Iowa and other states, who sell butter and eggs, or either, to the commission firms of South Water Street, Chicago's great mart of agricultural products. Not once only, but each and every day during the past few years. Now the government is trying to put a stop to the practice, called by the prosecutor, "a flimflaming game of the big commission men." A suit to dissolve the Chicago Butter and Egg Board, begun two years ago, will, if it results favorably to the government, place the producer and the dealer on the same footing they occupied before the Board's organization.

Some interesting facts concerning the buying and selling of butter were disclosed in the testimony given before Master in Chancery Charles B. Morrison, in Chicago recently. It was not only interesting, but startling. Here are two of the principal facts shown by the records of the Board:

Less than one per cent. of all grades of butter sold in Chicago in two years past has been offered for sale on the Butter and Egg Board; yet that organization controlled absolutely the Chicago quotations. Also, during the same period of time there have been only twenty-four days when any "extra creamery" butter, the best grade, has been sold on the Board; but the "extra creamery" quotations have been marked up daily by the butter committee of the Board just the same.

A. W. Hale, assistant secretary of the Board, explains the method of fixing prices. According to him, after the first and second butter calls and the posting of the

various grades for sale, the price committee goes into session behind closed doors and decides upon quotations on all grades. These quotations are supposed to be made in accordance with the prices offered on the Board. Mr. Hale was unable to tell Judge Morrison by what rules the committee was guided in fixing prices on grades of butter that were not offered on the Board. He didn't think they did it by guesswork. And he is equally positive that they did not raise or lower the price by flipping a coin.

As a matter of fact, the Butter and Egg Board is nothing but a disguise to be worn when "holding up" the creamerymen, who, of course, pass most of the losses along to the farmer and the dairymen. Its members are the biggest of the Chicago commission men, Swift & Co., Armour & Co., Wayne & Low, C. H. Weaver & Co., Coyne Bros., Goldenberg Bros., George W. Linn & Son, Merrill & Eldridge, R. Mangan & Co., Gallagher Bros., A. H. Barber & Co., John R. Deisher Co., C. Decker & Co., and others.

Their method of operation is something like this: First, as commission men, "anxious to give the creamerymen the best possible prices obtainable," they make yearly contracts with creameries in all the states within marketing reach of Chicago, for the entire production of butter of all grades, stipulating in the contracts that the prices are to be the official Chicago quotations, on

the day of delivery. The official quotations are those of the Chicago Butter and Egg Board. Sometimes, indeed in most cases, the commission men agree to pay half a cent more than the Board's quotations. That looks reasonable and fair enough, doesn't it? It *looks* so, yes. But that is not the quitting-point for the dealers. After having secured their annual contracts, they go back to Chicago and fix the prices which they will pay the producers.

Here is where the Butter and Egg Board comes in handy. These big dealers, with their yearly contracts in their pockets, saunter on to the Board, watch the less than one per cent. of the butter in South Water Street offered for sale, then adjourn into the committee-rooms and decide what they will pay the creamerymen for the butter that came in that day. What they decide on is the official quotations of Chicago, and represents what the producers get for their tubs of butter. But it doesn't represent the actual wholesale price down "on the street." Not by a long shot! No retailer can go into South Water Street and buy butter at the official quotations—not even from the very men who make the "official quotations." Always is the real price, the price the retailer has to pay, from one to four cents higher than the Board's official quotations.

That means that the big dealers who have the yearly contracts, take from the creamerymen from one half to four cents on every pound of butter the creamerymen make. For illustration, take a certain grade of butter, the "official quotation" of which has been made thirty cents, not because that happened to be the price offered on the Board, but because the [CONCLUDED ON PAGE 28]

Electricity on the Farm

By Don. Cameron Shafer

OUT in the Middle West there lives a prosperous farmer who owns one of the most modern farms of this progressive age. The farm buildings are as up-to-date as those of his city relatives, and only the best farm products, including blooded stock, is raised upon the place. Nearly every bit of the farm work is done by electric motors, and nightly the buildings and yards are ablaze with electric light.

But this same farmer, as he sits on the porch smoking a heavy cigar, while the powerful electric trucks are being loaded for the market, loves to recall the days when he was a boy and helped his father at farming on the stony hills of old New England.

"Only forty years ago it was, and we did not have a single machine to help us with our work," he mused. "We did everything by hand, except the plowing. We put the crops in by hand and covered them with a spike-drag or with the hoe. The corn and potatoes we worked by hand from daylight until dark. The harvest, from haying until the last hill of potatoes was unearthed, was one long back-breaking siege which tried the muscles and the patience of the strongest. We cut the hay with the scythe and the grain with a hand cradle; we forked this hay and the sheaves into the big barn, close up under the hot rafters, and thrashed our oats and rye and wheat with a flail. Machinery had to come, without it we could not raise enough to feed us all. Now this machinery is crying for mechanical energy, and the farmer will not be content until he can secure some cheap and reliable power to drive his farm machinery."

Fifty years ago, as he says, there was little, if any, farm machinery.

Twenty years ago the gasoline-engine was an experiment.

Ten years ago electricity on the farm was a perfect stranger.

Electricity is Meeting the Demand for Power

But to-day farming is a science, and the demand for power in agriculture has become so great that the winds are being harnessed, the falling waters made to turn wheels, the magical forces of electricity captured and utilized, as well as the energy derived from expanding steam and gas. There are now approximately four hundred manufacturers of gasoline-engines, and most of their product finds its way to the farm; one firm alone selling more than 30,000 gasoline-engines to the farming trade.

Of all the power used on the farm, electricity alone is ideal. The wind is too uncertain, steam-engines too

transmitted for miles and used with the greatest economy upon the farm; the gasoline-engine can be kept housed in one small building and its power sent out along the slender copper wires to every part of the farm to do the work and to light the buildings.

Near the village of Oriskany Falls, New York, there is a one-hundred-acre farm belonging to E. Burdette Miner. Through this farm flows an ordinary creek which is detained long enough in the Miner pasture to part with sufficient energy to do all the work on the farm, to light and heat the buildings and provide all the comforts of city life.

The Work on One Farm

Six years ago, Mr. Miner, helped by his sons, dammed this creek, obtaining a fall of but six feet. This dam was so made that a portion of it can be lowered to protect the farm in case of high water. The water from the dam was led along a small canal to the tiny wooden power-house, where it is directed against the blades of a turbine water-wheel. Belted to this wheel is the seventeen-horsepower dynamo. The power-plant is 1,700 feet from the house, necessitating a transmission line of bare aluminum wires. Because of this distance the plant is allowed to run night and day, without interruption, requiring only an occasional oiling. Every building, including the pig-sty, is now nightly illuminated by electric light. A small motor drives the circular saw for cutting firewood and turns a lathe and drill and other machinery in a near-by machine-shop. A two-horsepower motor drives a vacuum pump, and the sweeping at the house is done in a modern way with vacuum cleaners. A pipe from this same vacuum line extends to the cow-stables and does the milking with the aid of vacuum milking-machines, milking twenty-five cows twice a day. A half-horsepower motor in the dairy room runs both the separator and the churn and in the summer drives an ice-cream freezer. Even the grindstone is run by electricity.

The Miner residence is heated with five electric heaters which will keep the house at seventy-five degrees when it is zero outside. There are also several electric fans, including a ventilating fan in the attic. In the kitchen all the cooking is done by electricity for a family of from five to ten. Here a small motor does all the hard work of the kitchen and is also used to drive the sewing-machine. The water-system for the house and barn is automatically supplied from a motor-driven pump.

When asked about the probable cost of this entire plant, Mr. Miner confessed that he did not know. "We kept no account of the cost," said he, "but I can tell you that whatever the figure we wouldn't take it out for five times what it cost."

Engineers estimate that the plant could be reproduced, dam, power-house, wheel, motors and all, for not over \$1,800.

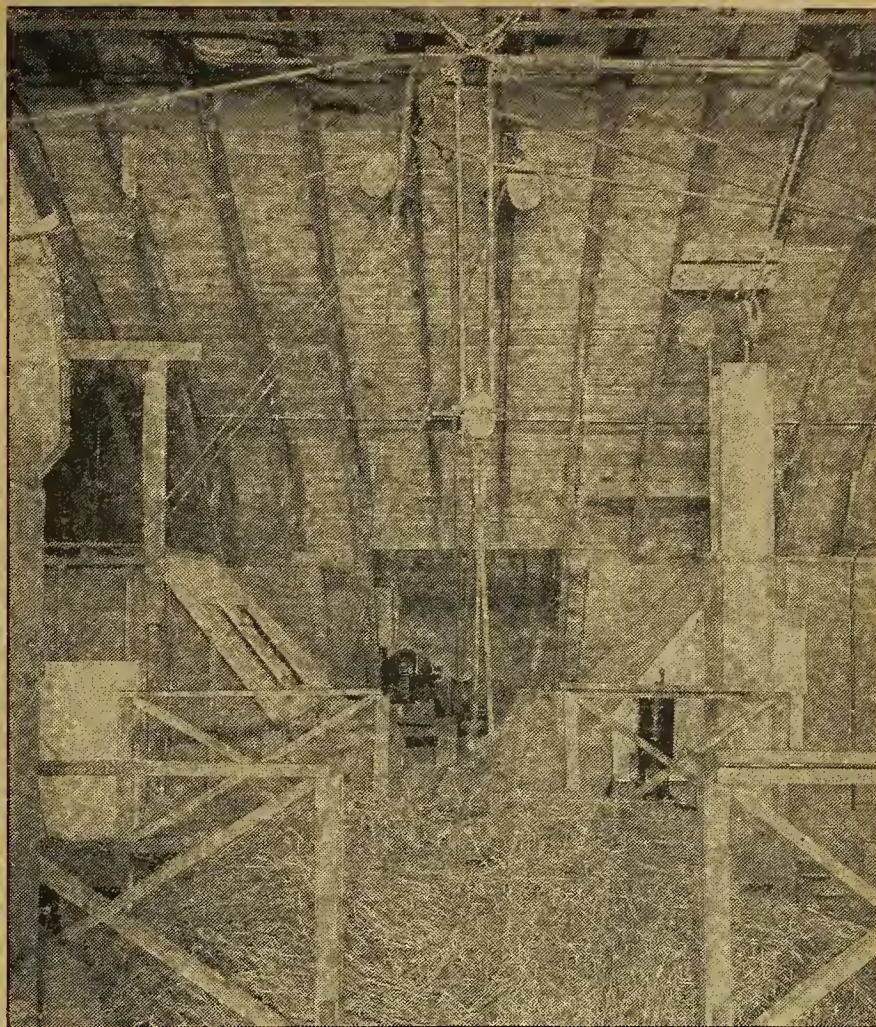
Jared Van Wagener, Jr., Lawyersville, New York, has a small plant which he installed for himself, costing him less than \$500, which gives him six horse-power to do the farm work at an estimated cost, including interest and depreciation, of \$128 a year. This plant saves him in farm labor fully \$300 a year.

Ellis Franklin, of Colfax, California, has a complete electrical plant, developed from water-power, which provides an abundance of light, heat and power and a water-works system which cost him about \$1,500. Charles Call, of Stow Township, Ohio, has a model water-power plant which he says can be easily duplicated for \$1,000. The dam is of earth, planked to prevent muskrat-holes, with a concrete spillway and flume. A mile west of Hudson, Ohio, is another plant, owned by Irving Glass, which cost the owner less than \$400, though he did most of the work himself. Frank Casper, of Howes Cave, New York, has a small plant, giving him light and power, which he installed fifteen years ago and it is still in good condition. He bought the whole electrical outfit, second hand, for \$50.

And so I might go on for several columns.

A Cheap and a Reliable Power

A farmer living in the Southwest wanted some source of cheap and reliable power. He needed this power, not only to do the work about the premises, but to give the thirsty land a drink when the summer showers passed him by. It was a question whether he must buy a half-dozen different sizes of gasoline-engines and scatter them about the ranch to drive the pumps, light the premises and do the work, or whether he would buy a gasoline-driven dynamo and transmit the electrical energy where needed and let a small motor do the work. A few figures convinced him that the latter way would be the easiest as well as the cheapest. Now he has a small concrete power-house in the rear of his garage, wherein a ten-horsepower gasoline-engine is direct connected on the same shaft with an eight-horsepower dynamo. The current is subdivided on a small switch-board and sent to the distant wells and fields, where it is used to pump the water for the growing crops and to harvest and thrash the grain. The same current is used for lighting the buildings and the premises at night.



The operation of hay-forks by electric motors demonstrates the safety of electricity on the farm

This machine requires only five by two feet and a half of floor space and will operate two hundred twenty-candlepower metal-filament lamps every night for fifteen cents, will do the cooking on the electric stove and run the small motors about the farm. This outfit costs less than \$2,000, complete with wiring, fans, motors, lamps, cooking devices and storage battery.

With electricity the power-plant, whether the energy is generated from water, steam or gasoline, is always located in one place and the current is transmitted over insulated wires to the milk-room, the dairy, the hay-loft or to any other part of the farm to do the work by day and dispel the darkness by night.

Among the power-machines which can be purchased for a nominal sum in these days of labor-saving devices are the following: Feed-grinders, root-cutters, fodder-cutters, fanning-mills, grindstones, circular saws, corn-shellers, drill-presses, ensilage cutters and elevators, horse-clippers, milking-machines, grain-separators, thrashing-machines, cream-separators, churns, vacuum cleaners, ice-cream freezers, dough-mixers, feed-mixers, and numerous other machines and implements.

All these machines can be readily operated by small motors.

What Power to Use

The amount of power required to operate many of these is small. The presence of a plant of sufficient capacity to operate one or two particular machines often makes it possible to use the power for many of the other purposes. The amount of work that a small amount of power will do may be judged from the following brief statements of what is actually being done with small existing power-plants:

Six horse-power will drive a grain-separator and thrash 2,500 bushels of oats in ten hours. Three horse-power furnishes all power needed to make 6,000 pounds of milk into cheese in one day. Six horse-power will run a feed-mill grinding 20 bushels of corn an hour. Five horse-power grinds 25 to 40 bushels of feed, or 10 to 12 bushels of ear-corn an hour. Seven horse-power drives an 18-inch separator, bur mill and corn and cob crusher and corn-sheller, grinding from 12 to 15 bushels of good fine meal. Six horse-power runs a heavy apple-grater, grinding and pressing 200 to 250 bushels of apples an hour. Five horse-power will drive a 30-inch circular saw, sawing from 50 [CONCLUDED ON PAGE 23]



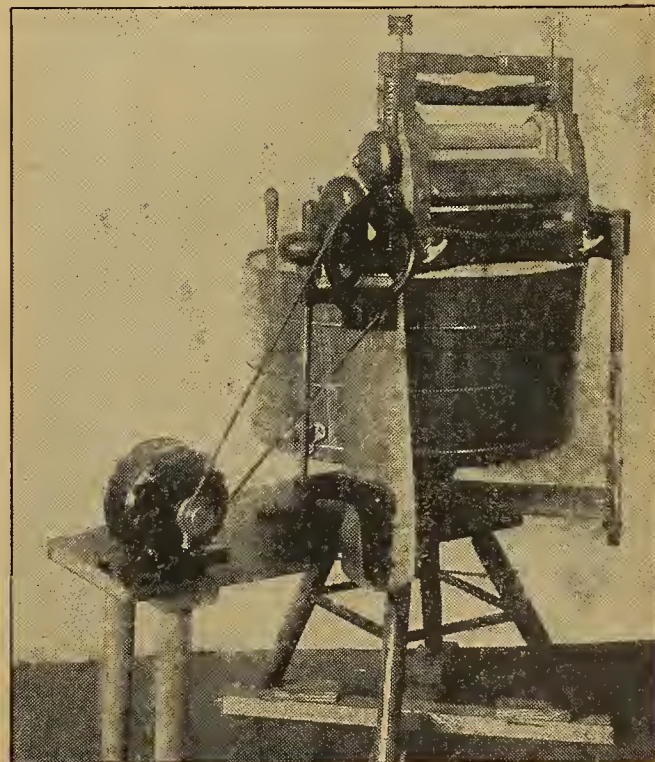
Electric motors operate milking-machines

dangerous, gas-engines more or less unreliable and water-power seldom exists where it can be utilized, all of these are practically stationary, non-flexible. But the invisible forces of electricity can be carried anywhere over a small wire, and at the touch of a button will spring into a flood of light or drive any machine, from the tiny egg-beater to the heaviest thrashing-machine or feed-grinder. Electrical energy can be subdivided to the smallest fraction of a horse-power, and the electric light and motors can be used with absolute safety in any part of the barn building from the hay-loft to the granary.

The first argument is that electricity is too costly.

As a matter of fact, where electricity can be purchased from some near-by village or transmission line, it is cheaper than any other kind of power. If it wasn't, do you suppose it would be used by thousands of other manufacturers? Nearly every other industry, from the jeweler's lathe to the great steel mills, is now driven by electric motors—simply because it is the cheapest, as well as the best, power available. It may cost more to install a private electric plant, but it will give more power and convenience than any other source for the same cost per running hour.

To produce electricity for power purposes one has only to obtain a dynamo, or generator, and connect it with some kind of energy, like falling water, the wind, or exploding gas, or expanding steam. As soon as the armature, or the interior core of the device, is revolved at the required speed, the machine begins to produce electrical energy. It is quite useless to try to explain this by saying that the mysterious force is brought into being because certain copper bars cut the invisible "lines of force" between two or more magnets. So far as anyone is concerned it is well enough to let the scientists worry about the universal law which makes this so and be content with the knowledge that a dynamo will produce electricity when it is driven by an engine or any other power. With the aid of such a dynamo the power of any running stream or waterfall can be



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The Market Outlook

Don't Sell on a Slump

SEVERE weather all over this country in January has seriously disarranged many a man's plans and made many a cattle-feeder sit up and think. With zero weather for weeks at a time, gains on cattle have been small and very discouraging. The inevitable, of course, happened. Railways could not furnish cars fast enough, but still furnished enough to let the weak-kneed feeders get out and break all markets. We are now due for a sharp reaction. It is a bad business proposition to sell on a slump. We may get panicky at the wrong time, when everyone can clearly see that the whole cause of it was simply weather. If the winter had been mild, quantities of feed would have been saved by many farmers, but after the siege we have gone through there is little question now but that we are due for higher prices on grain and roughage, and very much higher prices eventually for live stock. We may not pay much for corn for some little time yet, as there are vast quantities of no grade corn that must be marketed before warm weather, for it will not keep. But No. 3 corn will sell high all next summer. Stock cattle are selling high enough considering weight and quality, but will, toward grass, go higher yet, and owners of stock cattle should do a little figuring as to whether they can afford to simply let such cattle hold weight, or even go back, before grass. Feed of all kinds is far too high this year to do this; better add enough to keep the cattle gaining a little, or else you will simply be out all they have eaten. The hardest month on stock cattle, as a rule, is April, as by that time the weather is moderate and many owners seem to think they can then live on wind and water until grass comes. We are practically assured now of sufficient moisture to start out with in the spring, and as a general rule we always get good crops after a dry year. Now is the time to plan out the campaign. W. S. A. SMITH, Iowa.

"Steady"

THE one word that expresses in the most condensed form the state of the sheep-market since about the middle of January is "steady." Of course, there have been the usual fluctuations according to receipts, but lately a fairly sufficient supply has been the rule; and prices of like qualities of both sheep and lambs have ruled the same, when western wethers command \$4.85; native wethers, \$5; good to choice lambs, \$7.25; fair to good, \$7.10, and even culls, \$6. No farmer who knows the sheep business will desire to complain, for if his feeding bill is right, even if high, he is making as large and a quicker profit, not counting the value of sheep as a fertilizer, as he can get out of anything he grows. From now until next June I expect the best sheep and lamb market for years, perhaps excepting 1910; and, from June on, if the farmer has had foresight enough to grow plenty of rape, rye, alfalfa, clover, a few roots and other green stuffs, he can defy a hot summer and carry on his yearlings to November without much fear of a slump in prices. Every authority seems agreed that meat must be high, and if it is not, all we old prophets should retire and leave the business to the rising generation of the "sons of the prophets," who are to be turned out from the colleges far better equipped for the business than their dads ever had a chance to be.

As a rule, I am not very fond of statistics, thinking that they are likely as not to mislead rather than to inform; but these given below should be of use to all who breed and feed sheep, as pointing out the months when each class of them generally finds the readiest and best paying market. I give those of one of the best years in Chicago, 1910; and of the worst of the bad years, 1911; but it is remarkable how for a long series of years the same ratio (by months) of the prices holds good. I give only prices for top qualities, which we all hope to obtain, and leave the culls and such like to the other fellows, who don't play the game as it should be played, and who are always on the market with losing stock.

	Monthly top prices for lambs		Monthly top prices for sheep		Monthly top prices for feeding lambs	
	1910	1911	1910	1911	1910	1911
Jan.	\$9.10	\$6.65	\$6.35	\$4.75	\$7.75	\$6.10
Feb.	9.40	6.50	7.85	4.85	8.85	6.00
Mar.	10.60	6.65	9.30	5.60	9.85	6.40
Apr.	10.20	6.60	8.50	5.25	8.50	6.25
May	9.40	7.85	7.75	5.30	7.50	5.85
June	9.10	7.65	6.25	4.70	6.75	4.50
July	8.60	7.55	5.00	5.25	6.65	5.45
Aug.	7.15	7.40	4.60	4.00	6.30	5.10
Sept.	7.30	6.40	4.75	4.50	6.85	5.75
Oct.	7.25	6.40	4.45	4.50	6.80	5.60
Nov.	6.90	6.50	4.50	4.25	6.40	5.10
Dec.	6.80	6.60	4.50	4.60	6.00	5.50

In 1910, 5,229,294 sheep and lambs were received in Chicago, and in 1911, 5,736,220, as against 3,548,885 in 1900.

Top prices for fat lambs in 1911 in Chicago were \$7.85, but the great bulk, and nine out of ten were bulk, ran around \$5 to \$6.40; in 1910, \$10; bulk about \$7. Top on sheep was in July, \$5.25; bulk around \$4.50 in 1911; in 1910, \$9.80; bulk around \$5, but in 1911 the great majority was again "bulk." Feeding lambs, 1911, top, \$6.40; 1910, \$9.85, in March. In Buffalo, New York, top prices were about the same, though a great many top lambs in proportion seem to find their way there rather than to Chicago. Any of our readers who reach Buffalo, particularly about April to June, will do well to inquire as to that market, while sheep-feeders of the lower class of lambs and the like will do best in Chicago.

Wool continues to do better than hold its own, and both volume of business and prices seem satisfactory to sellers, buyers and manufacturers, and I think will remain so

The Shepherd's Metathesis

By Silas Thrifty

NOTE—What Shepherd Thrifty calls a "metathesis" is frequently termed a "Spoonersism," from the English Professor Spooner, who had the misfortune to be ever changing the initial sounds of pairs of words. For instance, when he meant to say that he harbored in his bosom a "half-formed wish," to his despair he said a "half-warmed fish." A minister once fell into a "Spoonersism" (or, as Mr. Thrifty calls it, a "metathesis") when he repeated the line: "This world is all a fleeting show" as "This world is all a fleeing shoat." Our shepherd friend, Mr. Thrifty, must have used his leisure between lamming seasons in the study of Greek, as he prefers "metathesis" to the college term "Spoonersism." But there is so much real ingenuity in his transposition of sounds, and so much poetic ability combined with sound shepherd's philosophy in them, that we take great pleasure in publishing the following remarkable verses. We predict that the world of shepherds will not let them die, that we may some time need to cite this note to prove that they were written for FARM AND FIRESIDE.—EDITOR.

YE farmers who are bound to groan
Because with labor ground to bone,
Attend me; once I held free rein
With bootless toil, but now refrain.
To meet success a man should work,
And only drudgery would shirk.
Invest in sheep. First pick and test,
That you may shun the tick and pest.
Be sure to take such care of sheep
That all may get their share of keep;
And then give every sheep his care,
So each may safely keep his share.
Good food will cause the grease to flow
That oils their wool, fine fleece to grow.
Give salt, and water clean to sip,
If prime fleece you'd be seen to clip.
With roots and clover find their greed,
As eagerly they grind their feed.
If you would make them great with gain,
Be wise; keep up their gait with grain.
The corn-field, where the nubbin grows,
They'd rather have than grub in nose.
To make them thrive just heed their wants;
They'll help your work; they'll weed their haunts.
Of useless plants they'll mow the seed,
And wide with crop-food sow the mead.
Oft change their pasture; rest the lot;
But keep their feet dry, lest the rot
Set in, for sheep aren't strong in life,
With ailments never long in strife.
Use gentle, quiet care and skill,
Lest frightening them you scare and kill.
Of wild excitement skip the din,
Except when you must clip the skin.
Of insect foes, a bunch of mites
Will tease them with a munch of bites.
Of dogs they have inborn shy dread,
So fold them nights in safe dry shed.
Days may be cold; they heed them not
If dry; but never need them hot.
They ought on soft clean bed to lie,
That dealers may be led to buy.
You'll find, before you weigh their pay,
They've done much more than pay their way.
I've tried this, and it's great to find
No chance for cruel fate to grind.
My sheep are not now light of weight,
And I'm a happy wight of late.
Their value is to-day, my pets,
Five times enough to pay my debts.

until Congress acts on the wool tariff, about which Solomon in all his glory could not safely venture an opinion.

The figures are condensed from many sources, but I find Clay Robinson's reports most reliable as concerning all the big markets.

JOHN PICKERING ROSS, Illinois.

Hog Prospects

DURING the latter part of January the marketing of hogs has increased over the receipts during December and the first weeks of the new year. It was generally considered in December that the high tide of the winter's marketward movement had then been reached. This heavy marketing at a later date is of a temporary nature, and will presently subside and the general course toward the regular lighter spring receipts will be resumed. Meanwhile it is well to notice a few interesting facts. When the extremely cold weather demoralized the train service, the receipts dropped to about one half the normal and prices scored a

forty-cent to fifty-cent advance—the highest figure since mid-November. As the weather became warmer, the delayed shipments came piling in, and at the end of the following week the week's receipts showed larger than any for the past three years. In spite of this record marketing, there remained fifteen cents to twenty cents of the advance made two weeks previous. This simply goes to show that killers everywhere appreciate that soon receipts will be smaller and that they must now take advantage of the opportunity to fill their cellars, but they do it in a disgruntled fashion. During the severe weather the trains came dragging in all day, some of them a whole day late. This condition kept the market uncertain and worked to the disadvantage of the seller. Besides, the long time in transit made a heavy shrink and many dead hogs littered the unloading platforms. The average daily number of dead hogs received at Chicago during December was about 60; one of the cold days in January 236 carcasses were dragged from the cars, sometimes 5 and 6 to the car. Meanwhile the rendering plants were well supplied and were kept busy carrying the "deads" away. In such cases, plenty of good bedding and several strong partitions in the car would have proven a good investment for the shipper.

General quality of the offerings is improving and a large supply of prime 190 to 220 pound barrows is to be had. Fat backs continue scarce and few are expected in the future. The feeders who have the determination to carry a hog along past the 250-pound mark are few and far between when feed is at the present high figure. Eastern shipping demand for this class of hogs has lessened, and they have lost part of the premium they have commanded over the middle weights. Large numbers of fat gilts are showing up at the yards, indicating a desire on the part of the grower to curtail pork-making operations because of the present high value of feed.

Over in the provisions market there is much complaint of the general dullness of the trade. Occasionally there is some active speculation in pork products and an advance is scored, but a recession soon follows and conditions are back to the starting-point.

LOYD K. BROWN, South Dakota.

Butter-Making Methods

FOR a dozen years bacteriologists and butter-makers have made great progress along the lines of determining the process for producing uniform and delicious butter. We had arrived at a point where we thought we had some rules that were almost as unchangeable as the laws of the Medes and Persians, when suddenly, some few years ago, a layman down in Ohio began, like the low mutterings of thunder-clouds at the horizon, to say things that were not orthodox and to keep saying them and, still worse (for the makers of set models of most of our machinery), to prove what he said was so near the truth that it has caused not a little surprise and inquiry. One theory he seems to have upset is that cream must be confined from the air with the starter, preferably pure cultures, so as to imbibe a choice flavor. Mr. F. H. Stanley of Greenwich, Ohio, was the dissenter, and he went to work industriously and made several machines that have demonstrated primarily that cream may be gathered once a week and still produce firsts for the markets, and that old cream may be renovated by a simple process and be suitable for a critical market. The principle is founded on the discovery made by the Connecticut Experiment Station that Bacterium Lactis Acidi is a more formidable germ than any other that attacks milk, and that if given favorable conditions it will assert itself to the great benefit of

the product. Cold air is used instead of heat for the propagation of the lactic-acid germ. "The cream is ripened by Nature's method at 50 to 54 degrees under the oxygenating system." The bacteria get into the cream from the air. Expose the cream to air as much as possible, and the friendly bacteria soon outnumber other and less desirable forms of life therein, with a most favorable result. A peculiar fact that seems to have been proved about this family of bacteria is that while it invades and takes complete possession of the cream, destroying other germs, it generates an acid which eventually destroys itself. Mr. Stanley insists that the bacteria are retarded by the application of higher temperatures, which cause a too rapid growth of acid.

This is the new method in a nutshell: The passing into the old cream of large quantities of pure air at low temperature prevents the activity there of all micro-organisms except the lactic-acid germ, and also its formation of acid (which is suicidal), with the result that butter of bright, delicate flavor is produced.

HOLLISTER SAGE.

A Friend of Good Crops

By John Snure



Creatinine Crystals

WE HAVE much to learn about the soil. Men have trod the earth and plowed and sown and reaped for thousands of years and, at first blush, one might deem it strange that the surface of this planet should still possess its mysteries. But, as a matter of fact, there is much to be learned about the commonest subjects.

The human race has had children since the days of Eden, but who will say there is not much to learn about child-rearing? Nutrition studies are merely in their beginning. Some of the keenest minds are giving attention to the question of the best sort of environment for children. It cannot be considered remarkable, therefore, that there is still a wide field to explore with respect to life of plants and the nature of the soils in which they are grown.

The researches of the Bureau of Soils of the Department of Agriculture, which are being tirelessly pursued by Dr. Milton Whitney and his associates, are beginning to give us new glimpses of understanding as to soils and plants. They are throwing new light on the important subject of the nature and composition of the soil. Recently in the FARM AND FIRESIDE, something was told of the discovery in the organic matter of the soil of dihydroxystearic acid, a foe to good crops. In this article it is proposed to say something of another compound which has been found in the soil and is a friend of good crops. It is known as creatinine and has been proven by numerous experiments conducted with scientific care and accuracy to be distinctly helpful to plant life.

An Important Discovery

Secretary Wilson, on the recommendation of Doctor Whitney, has deemed the discoveries made concerning creatinine as a beneficial constituent of soils to be of sufficient importance to have a bulletin issued on the subject. "The results of this investigation," says Doctor Whitney in a letter to Secretary Wilson, "throw much light upon the problems of soil fertility." The bulletin which has been issued has been prepared by the associates of Doctor Whitney, Dr. Oswald Schreiner, chief of the laboratory in which these investigations were made, Dr. Edmund Shorey, Dr. M. X. Sullivan and Dr. J. J. Skinner. It treats of the general subject of beneficial soil constituents, of the separation or isolation of creatinine from soils, of the origin of creatinine and of the effects of this compound on growth and absorption.

Creatinine is no stranger to the chemist or to the physician. It has long been known as a constituent of the human or animal organism. It has been demonstrated to exist often in the flesh of plant-eating animals. Prior to this time, however, it has never been reported in the soil or in plants, and the researches of the government soil chemists have disclosed that it exists in both. It is found in organic manures, having been discovered both in stable manure and in fresh cow-pea vines as used in green manuring. It is established, too, that creatinine occurs in soils of widely different type and from widely separated areas. As the result of his examinations of numerous samples of soil from different sections of the country, Doctor Shorey came to the conclusion that creatinine is a frequently occurring and probably a normal and constantly occurring constituent of soils. While all the soils he examined had been under cultivation for some years, he says there is no theoretical reason for concluding that virgin soils differ from cultivated ones in this respect, except perhaps in quantity. The quantity of this substance found in the soil is usually small. It usually equals, sometimes exceeds, the quantity of nitrates which are normally present. But there is every indication that it has not been possible to extract all of it from any soil sample.

Without entering into a technical description of creatinine, it is sufficient to say that it is a nitrogenous compound containing carbon, hydrogen, oxygen and nitrogen. It was found in wheat-seeds, wheat-seedlings and wheat-bran; in rye, clover, alfalfa, cow-peas and in potatoes. Creatinine was also found in the water in which wheat-seedlings were grown. The investigations seem to show conclusively that creatinine is present in the soil and in plants as such and not because derived from some particular treatment of the soil or the plants.

It is not the purpose here to discuss creatinine chemically, though from the chemist's standpoint it has many interesting qualities. It is sparingly soluble in cold water and in alcohol and is insoluble in ether. Is easily dissolved in hot water. It is found in a number of fluids and tissues of animal origin, in the flesh of certain fish, in the muscles of animals, in beef-extract, in crab-extract and in the products of certain bacteria. Its occurrence as the result of bacterial growth has been noted only a few times and, as already noticed, it has never, before the discoveries of the government soil chemists, been found in plants and in the soil. Being present in plants, it is consequently found in plant debris and passes into the soil either by the breaking up of the plant debris or as a result of the sloughing of cells or direct passage from the living plant.

The experiments of the Bureau of Soils on the subject of the good influence of creatinine on crops were such as to remove all doubt on that question. Wheat-seedlings were used. One experiment was conducted to

show the growth of wheat-seedlings in a set of cultures to which nutrient salts were added and in a second set to which fifty parts per million of creatinine were added. When the plants had grown for several days, it was noticeable that the creatinine cultures were better developed, having broader leaves and longer and better developed roots. This was more noticeable in some of the fertilizer mixtures than in others. The growth was found to be increased in this instance nine per cent. In the case of cultures containing no nitrate, there were experiments with and without creatinine, using cultures composed of mixtures of potash and phosphate. An increase of thirty-six per cent. was shown in the creatinine cultures. Plants in each culture containing creatinine, no matter what the proportion of potash and phosphate, were found to be larger than the plants grown in a similar solution without creatinine. When a little nitrate was present, creatinine increased the growth only seventeen per cent.

Creatinine Has Long Been Known

Speaking of the effect of creatinine on growth in eleven cultures containing no nitrate, Doctor Skinner says:

"The total growth of the eleven cultures, without creatinine, composed of mixtures of phosphate and potash, was 16.674 grams against 22.682 grams for the cultures with the creatinine. This is an increase of thirty-six per cent. in the creatinine cultures."

He also says:

"The plants in each culture containing creatinine, no matter what the proportion of potash and phosphate,



Notice the larger growth of stems and roots in the bottles marked "C." These bottles contain creatinine in solution

are larger than the plants grown in a similar solution without the creatinine. The increased growth is noticeable in the roots as well as in the tops. The tops in each case are broader and taller, and the roots are larger and better branched."

Results of growth in cultures with and without creatinine and composed of mixtures of phosphate, potash and nitrate, the latter amounting to sixteen parts per million, were studied. In this case there was an increase



Note what creatinine does

of eight per cent. in the cultures containing creatinine. Where large amounts of nitrate were used, the growth was practically the same with and without creatinine.

It was further shown that the substance, creatine, which is much like creatinine, creatinine being creatine minus a molecule of water, had beneficial effects on plant growth about the same as creatinine.

It was established, too, that plants growing in cultures, whether high or low in nitrate, showed a greatly diminished absorption of nitrate when creatinine or creatine was present, whereas the absorption of potash and phosphate was practically normal. From this, it was established that creatinine and creatine can replace the effect of nitrate in plant growth. This is a fact to be especially emphasized.

There are Many Friends of Good Crops

Doctor Schreiner, in a summing up of the importance of the investigations which have shown the beneficial effects of creatinine and harmful effects of other compounds, says:

"The recognition of this directly beneficial soil constituent is no less important than the recognition that harmful soil constituents exist. The organic matter of soils has been considered almost wholly as having an indirect effect in agriculture, to be, as it were, merely a source for important elements like phosphorus and nitrogen. These researches show individual constituents to have decided effects by themselves in hindering or helping plant growth. This nitrogenous constituent appears to be as favorable as soil nitrates to crop

production and even to be able to replace the latter in such a manner that the amount of nitrate absorbed is materially lessened in its presence, while plant growth is increased. The amount of soils is, moreover, comparable with the amount of nitrates as usually found in agricultural soils."

But he points out that creatinine is only one of a long list of nitrogenous and phosphorus-carrying organic compounds of the soil and that much of what is true of this one beneficent compound is doubtless true of many other helpful soil constituents. It is to learn more along this line that the energies of the Bureau of Soils are, in part, now being directed.

Doctor Schreiner makes this statement, of importance in its bearing on the fertilizer question:

"The most beneficial manures under normal circumstances are those of organic origin, and the presence of such directly beneficial compounds, like creatinine, in well-rotted stable manure and in green manures, like cow-peas, goes far toward explaining why these manures are more beneficial to soil as a rule than are equivalent parts of fertilizer in the purely mineral forms."

To make nitrogen useful for agricultural purposes, the difficult processes have to be gone through of converting it into nitrates. But this new discovery, as Doctor Schreiner points out, suggests the possibility that much nitrogen that now goes to waste in the industries can be converted into such compounds as creatinine and so made easily available for fertilizer, whereas the difficulty of conversion into nitrates now causes much of the nitrogen in question to be lost.

This suggests, obviously, cheap conversion into fertilizer of much nitrogen from waste nitrogenous materials in the industries. This is a highly important phase of the discovery of creatinine in soils and plants which is to be further investigated. It would seem as if the door had been opened wide to developments that are bound sooner or later to have important effects on the fertilizer problem.

Here, then, is where the soil problem seems to stand: The experts of the Bureau of Soils have isolated many compounds, between twenty-five and thirty, not known before as constituents of the organic part of the soil; the effects of these various compounds on plant life are being studied; it is found some are harmful and some are beneficial; new compounds and constituents of the soil are being sought and discovered and the result of this groping in a field strangely unexplored in spite of all the learned lore about the soil, is to reveal vaguely that the organic part of the soil is a remarkable mingling of good and bad elements, hitherto little understood.

One may not inaptly say the environment of the plant is like that of the child. In the environment of the child, the friendly and the hostile are blended. According to whether the one or the other predominates, the child is likely to grow up healthy and normal, or sickly and weak. So the plant, coming forth from the seed and entering the soil and the organic matter of the soil, finds itself surrounded by elements that are friendly and elements that are unfriendly and its healthfulness or unhealthfulness is likely to depend on which are uppermost.

Will Fertilizer Ideas be Revolutionized?

What has been discovered concerning creatinine and other compounds in the organic part of the soil leads to the belief that when the researches of the soil chemists give us full insight into the chemistry of the soil, then the business of applying fertilizers will be revolutionized. How can a fertilizer be applied intelligently unless it is specifically known what are the substances to which it is being applied? The constituents of the fertilizer may be useless to reach the crop defects which we want to reach. They may even be harmful. Moreover, the idea is strongly conveyed that the use of fertilizers in the present stage of soil knowledge is unintelligent and uneconomical. For instance, a well-mixed fertilizer, such as is commonly used, contains phosphate, potash and nitrogen. To apply such a fertilizer to a soil is a good deal like shooting with a blunderbuss in the belief that somehow or other one must surely hit the mark. It may be that only the cheapest of these constituents is needed to bring the soil into good condition. What, for instance, in the light of the facts already set forth, is the economy or use of applying nitrates to a soil already well supplied with creatinine or creatine? Yet, ordinarily one would proceed to apply the mixed fertilizer without knowing that presence of creatinine made use of nitrates a useless expense?

When one puts a bushel of good coal into his furnace, he knows that he is going to get results for all the coal he uses. If it is a third slate, he knows he will not. If the Bureau of Soils experts are now going along the right path toward soil truth, then we may expect the time when we will get results from fertilizers as unerringly, with as little loss of material or money, as when we use good coal. There is every reason to believe that we are now using fertilizers too much like the man who ignorantly feeds his furnace and that much which we apply is utterly useless and wasted. It is such discoveries as the one here described respecting creatinine that will eventually enable us, when we apply fertilizer, to "touch the right spot," without paying money for something that is either unnecessary or harmful. Soil science will never be as exact as mathematics, but it can apparently be much more nearly exact than it has been in the past. We may look for that time very soon,



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develop 40 h. p. It is a motor that will "lean right into the collar and pull."

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This monogram on the radiator stands for all you can ask in a motor car

Chalmers Motor Company, Detroit, Mich.

Garden and Orchard

These, Too, Protect Trees

A STEP toward protecting trees against rabbits and field-mice, which is excellent in itself, but especially valuable when used with other devices, consists of making a mound about the tree. Mice prefer cover, and will not come out on the mound to work. Soil will do, but cinders are better, since mice are less apt to burrow in them. Clear away all weeds or mulching from the base of the tree, for a foot or more on all sides. Then, with a post-tamper, thoroughly firm the soil about the cleared space; this fills any runs or burrows which may be just below the surface. Next, build a mound 12 or 14 inches in diameter at the base, and from 4 to 6 inches high, about the stem of the tree, packing it firmly. The top of such a mound is usually kept clear by the force of the wind, even if there are several inches of snow on the ground.

The ideal device among mechanical protectors is made from galvanized wire cloth,



having four 22-gage wires to the inch. It is durable, admits air and sunshine, and furnishes no breeding-places for the woolly aphis or other insects. The wire can be bought in rolls of 100 lineal feet, from 24 to 36 inches wide. The 24-inch width is more commonly used for apple-trees. This is cut cross-wise into 12-inch lengths, making pieces 12x24 inches in size. These are bent over a broom or fork handle, so as to form a cylinder $2\frac{1}{2}$ or 3 inches in diameter. The edges should lap about $\frac{1}{2}$ inch. These, placed about the trees, will be securely held by their own tension.

Many other devices are in use for this purpose, such as poultry-netting, which does not exclude mice; heavy spiral wire protectors, which rabbits sometimes reach through; and cylinders of wood veneer or paper, which must be collected in the spring and stored through the summer to prevent weakening the bark by the exclusion of light and air, also to prevent their becoming a breeding-place for insects. Most of these devices cost less than the galvanized wire screen recommended above, but the increased safety of the wire screen is worth much more than the difference in price.

For a cheaper, yet safe, protector, a combination of corn-stalks and narrow wire screen is probably best.

To get the stalks, lay a bundle of fodder flat on the ground, and cut the butt ends off square with a hay-knife. Then, cut a two-foot section from the end of the bundle, and feed these even-length pieces in a separate place. After the leaves are stripped, these stalks may be readily gathered and bundled. Five or six of them bound about a tree with twine or wire furnish perfect protection against rabbits. The stalks must be removed in the spring, for the same reasons as given above for the wood and paper cylinders, but, of course, are not collected and stored. The wires, if used, must be cut to prevent girdling. At the base of the trees, a wire screen 8 inches high should be placed. This is cut from the material described above, and measures 8x12 inches. This is perhaps the cheapest and best protection which the farmer can secure.

Mrs. A. E. McNEIL.

An Irish-Potato Hotbed

A NORTH CAROLINA reader asks me how to make "an Irish-potato hotbed." I do not know whether she means to grow early potatoes under glass, or whether she just wishes to propagate the potatoes from sprouts. The latter is the more likely proposition. Seed-potatoes are scarce and high in price. I have often made use of the sprouting method when I had a small quantity of some choice and high-priced variety, from which I desired to grow the largest possible yield. I can grow some very good potatoes on the greenhouse bench, but never tried this in hotbeds. Sprouts to plant out in the open in spring can be easily grown, however, in the same manner as sweet-potato slips are grown. About six weeks before you expect to be ready to set the potato-slips in open ground, make an ordinary hotbed heated either with fermenting manure, or by means of a flue running the whole length, underneath the bed. Such fire-hotbeds are often used for growing sweet-potato slips, and will answer just as

well for growing Irish-potato slips. Cut the potatoes through the flat side, from stem to seed end, and bed the halves on a layer of sand or good soil in same manner as sweet potatoes are bedded for propagating purposes, and cover three or four inches with more sand or soil. When the first sprouts are about two inches high, they may be pulled and planted, or if the ground is not yet ready, potted off or planted in flats, and held until they can be planted outdoors just as pieces of potato are planted, of course leaving the top of each slip either even with or above the surface, according to the length of the slip. They are not liable to wilt, and will grow easily.

T. GR.

Most Birds are Useful

I HAVE before me the State Audubon Societies' reports to the National Association. The Kansas report has this to say about their birds: "We find that 299 species of birds perform a beneficent economic service to the people of Kansas; a very large proportion of this number are non-game birds that were without protection under the old laws, and the efforts of this society were centered in legislative protection to them, rather than in changes in the game-bird phase. Of the total number of 355 species that visit this state, there are really but three species that are more destructive than useful; hence, the importance of protection to outlawed birds, about which the old game laws were absolutely silent." The above applies equally well to the birds of Ohio and, in fact, to all states so far as I know. How would this report strike the farmers who think that the birds don't amount to anything? It is high time that the farmers, as a whole, are awakening to the fact that all birds are of direct benefit to them.

H. W. WEISGERBER.

Timely Spraying

FRUIT-GROWERS are awakening to the importance and value of timely spraying. Insects or fungi of some kind may be expected each year as surely as the season rolls around. The wide-awake grower has already thus early in 1912 given some thought to the spray problems awaiting him. The fruit meetings, the horticultural periodicals and the catalogues of manufacturers of spray machinery have received their share of attention for any improvements over apparatus used last year and for any information that may make future work more efficient.

Long before the first day of actual spraying, pumps, engines, tanks, hose, nozzles, etc., should be thoroughly overhauled and the necessary spray-materials at hand, so that nothing but an unexpected accident may prevent the outfit appearing in the fruit-plantation on the first suitable day for the work in hand.

The best time for spraying any one of the numerous fruit-enemies is none too long and often a delay results in but a partial success, if not altogether in failure. Probably peach-growers are the first in the field in the spring in their fight against the peach-leaf curl, using either Bordeaux mixture or lime-sulphur. It is not essential which material is used, but it is essential that the application be made early, before the buds begin to swell, and that the work be done thoroughly, using Bordeaux 5-5-50, or lime-sulphur at winter strength. It must be remembered that peach-trees infested with scale should be sprayed with the lime-sulphur, as this material controls both scale and leaf-curl. The Bordeaux controls the leaf-curl, but not the scale. It must be kept in mind that it is not the particular kind of sprayer used that is the index to the best work done, but the degree of control of insects and fungi is determined largely by the kind of spray material used, by the time of spraying and by the thoroughness of the application.

The San José Pest

San José scale is usually the next enemy on deck in many places. The lime-sulphur spray is here efficient, using either the commercial or the home-made preparation, applied at scale strength, about 1 gallon to 9 of water when the strength is from 32 to 33 as recorded by the Baumé thermometer. The time of this application is not so important as with leaf-curl, much depending on the acreage to be sprayed. A safe rule is to begin early enough to be reasonably sure of completing the work just before the leaf-buds burst, allowing for unexpected delays. And right here thoroughness must again receive emphasis. To do a good job, all parts of the tree on which the scale is present must be well coated with the spray material. The tall, spreading, rather dense-topped trees will give the most trouble. Spray with the wind and from more than one side, taking advantage of the shifting winds. With tall trees a platform tower must be used to reach the topmost branches. As a rule, control of this insect depends more than anything else on the degree of thoroughness of the application. Some persons think they do thorough work, and then in the fall the large number of scale-infested apples cause them to complain bitterly that the spray materials are no good. A close examination of the limbs, a few days after an application, will often show up the

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supposedly "thorough" work to be far from a perfect job.

Pear-growers who have suffered from the work of the pear-psylla will do well to head off this insect before the trees have been ruined by their work. The extensive coöperative experiments of the Entomological Department of the Agricultural Experiment Station, Geneva, New York, with New York pear-growers last season showed conclusively that the control measures used were most satisfactory, especially in orchards in which the psylla had steadily increased in numbers until the trees were in a bad way. If no attention has yet been given such trees, much good may result from a thorough spraying during the first warm days in March or early April with the tobacco preparation called "Black leaf 40," using $\frac{3}{4}$ pint to 100 gallons of water, with the addition of three pounds of soap. This treatment kills the psylla while hibernating on the tree in the "fly" stage and before they have had opportunity to reach the egg-laying period.

Spray the Opening Buds

Current and gooseberry buds are among the first to open in the spring, and the bushes should receive a spraying of either lime-sulphur 1 to 9 or of Bordeaux mixture before the leaves appear. The pruning should be finished before the spraying, in order that the most thorough work may be done. These fruits are severely attacked by San José scale, and such spraying will not only hold this insect in check, but will aid in keeping down some fungous troubles. For the dreaded gooseberry mildew, however, sulphide of potassium should be used at the rate of 1 ounce to 2 gallons of water, making the first application as the youngest leaves appear.

The suggestions given do not by any means cover all of the early spring troubles to which fruit-growers are heir. They are, however, among the important sprayings that must be given before the leaves have unfolded if the greatest good is to be secured. To sum up these somewhat rambling notes, first, select the right spray material for the particular insect or fungi; second, get on the job at the best time to do the most good; third, be thorough; and of these three, the last is the most difficult to secure.

O. M. TAYLOR.

EDITOR'S NOTE—Mr. Taylor is Foreman in Horticulture at the New York Agricultural Experiment Station, Geneva, New York. He will contribute regularly to the columns of FARM AND FIRESIDE, a fact which will be pleasing to all readers now acquainted with the work he is doing. Those who have real problems to meet will find a solution for them in what Mr. Taylor says.

Watch the Fruit-Trees

DURING a recent winter we learned the importance of keeping an observant eye on the orchard during winter's storms.

It was the occasion of a heavy snowfall occurring in April. Many of the early apple-trees had already developed a considerable leaf surface which greatly increased the area on which the flakes might alight. There was no wind and the flakes were large and humid, so that they readily adhered to that on which they chanced to fall. It began snowing during the night and in the morning it was still snowing. We grasped the seriousness of the situation at a glance and donned boots and overcoats, and by means of poles succeeded in dislocating enough snow to relieve the limbs of further



The trees are in danger

danger. As it continued to snow for some time, our timely efforts, doubtless, saved us much.

On a later occasion our trees underwent a similar experience, though from a slightly different cause. It was a cold rain, the drops freezing as soon as lighting. As the rain continued, the layers of ice on exposed surfaces thickened. Finally the weight of ice became so heavy that the telephone-wires snapped, poles went down, and the limbs in the woods began to break. Many fruit-trees that received no attention fared likewise. Fortunately, it was in the daytime, when the effect could be seen. In our own case we breasted the storm and by means of rails and boards succeeded in propping most of the threatened limbs so that our loss was slight. It was a disagreeable job—those cold, icy boards—but it paid. On such occasions a little care and attention to the orchard may save what it required years to produce.

P. C. GROSE.

Growing Catalpa-Trees

DURING the past few years, a great deal has been written on tree-planting and forestry. Unfortunately much of this has been theory and not practice, especially among the farming class, who should be most vitally interested. In traveling through parts of Pennsylvania and other states, we see many miles of young trees set out by the railroad companies for a future supply of cross-ties. But it is seldom that we meet with a farmer who is willing to leave the regular order of farming and set out even a few trees for a supply of fence-posts.

A friend of mine planted one hundred and fifty acres of land to catalpa-trees, cared for them and managed to live well. Lately some of the trees have been cut out of the five-year-old field, and are going to be made into ball-bats. These trees were large enough to make small fence-posts. Three



Straight, orderly rows of catalpa-trees

years' more growth will make all of these trees large enough to cut for good-sized posts.

The catalpa-tree sprouts from the stump, and these sprouts grow wonderfully fast. Thus a catalpa-plantation once started is a permanent thing.

If the true Catalpa Speciosa trees are secured and they are given half a chance, success will be assured. There have been millions of the "scrub" catalpa sold to the planter for the tall-growing kind, and these trees have done much to hurt the cause of tree-planting. Too much care cannot be exercised in the selection of trees, otherwise much time and money will be wasted.

On almost every farm there is some corner, some out-of-the-way place, that can be utilized to advantage in this way, and aside from the direct commercial phase, there is the question of beauty as well, for there is nothing more attractive than straight, orderly rows of catalpa-trees. C. R. ROSS.

Blackberry Culture

A SUBSCRIBER of St. Johns, Michigan, asks some questions relative to the above caption. "Am intending to set out two acres to blackberries this spring on sandy land with eastern slope," he says.

(A) "The land has sandy top and bottom, but at a depth of two and one-half feet the subsoil is inclined to be cold. Is tiling necessary?"

(B) "I figure on setting plants nine by nine feet, so I can give thorough cultivation. Is this too far?"

(C) "What is the quickest way to set them and do the work right?"

(D) "Can I grow crops between the rows, or would it be better not to do so?"

(E) "Do they need protection in winter?"

(F) "Is it necessary to spray them, and with what formula?"

(A) You do not state the nature of the subsoil, whether gravel, clay or hard-pan. If the former, tiling would not be beneficial. If clay or hard-pan, no doubt it would be of great advantage in after years and to other crops. For blackberries, the gains would hardly justify the expense. They do best usually in a cool, rather moist soil.

(B) Nine by nine is twice too far to set them, and you would not get more than half a crop. Set six by four feet, which will allow driving through one way for hauling manure, or to clear the ground of brush at pruning-time. And now as to eastern slope previously referred to, set the wide rows north and south, as that is best for all bush fruits, and grapes as well. This gives the all-day sun, while reversing the order throws the north side of the row continuously in the shade. Then, too, the slope should be cultivated chiefly across and not lengthwise. Cultivate as much as you like up and down, but always finish crosswise.

(C) Mark the narrow rows with an ordinary corn-marker, and furrow lightly with a plow for the wide rows. Spades will be necessary for finishing out the hole and filling in. Gather the roots in the hand, and with a sharp knife clip back the ends, remove all bruised or broken ones, and see

that they are spread out in natural position before filling in. As soon as the setting is finished, cultivate with a fine-toothed cultivator, leaving the surface fine and level, to conserve moisture.

(D) Catch crops of corn, beans or potatoes may be grown without danger to the plants, only keep the rows uniform so as not to interfere with the cultivation.

(E) Some varieties would require protection in your latitude. Lawton, Kittatinny and some other excellent sorts would hardly be safe without it. I would advise Snyder and Taylor's Prolific. They are admirable companion berries, the former a little earlier than the latter. Both are excellent in quality, prodigious bearers and oak hardy. Use the latter for main dependence.

(F) For best results, spraying will be essential; and for ordinary conditions Bordeaux mixture of the 4-4-50 formula will answer nicely. That is, four pounds of sulphate of copper and four pounds of stone lime to fifty gallons of water. Hydrated lime may be used in place of the stone lime, which is perhaps better and saves much trouble in slaking. If rust appears, increase the sulphate of copper to six pounds, and spray thoroughly any time until the fruit begins to color. Dig out affected bushes, and burn them, as the old wood should be removed and burned every year after the bearing season. The San José scale will not be very troublesome. If so, however, use the lime-sulphur mixture, which can be purchased in any quantity and with full directions for use.

A word as to fitting the ground: Plow down heavy quantities of manure, as your soil will require all the humus possible.

Do this at once, and keep up frequent but shallow culture until setting-time.

J. E. MORSE.

The Woolly Apple-Aphis

THE appearance and life history of the woolly aphis are important subjects, for here is a pest which for years has been damaging the apple yield in almost every section of the country.

The insect is so insignificant in its appearance, and does its injury in such a secretive way, that its first attack is likely to be entirely unobserved.

After experience with both pests, it is the writer's firm opinion that less danger may be expected from the San José scale than from the woolly aphis when it has become thoroughly established. The San José scale, numbering millions in a single season, sucks much needed juice from the limbs, but with that it is content, while the woolly aphis not only deprives the tree of sap, but destroys its power to recuperate. The San José scale, though he hides beneath a tough, impervious roof, is exposed and open to attack when compared with our woolly friend, who burrows unseen under several inches of soil.

The first indication of this pest will be found in the form of a white, fluffy, cotton-like substance on the limbs—usually located on tender terminal twigs, water-sprouts, or the new bark about healing wounds. If this is carefully brushed off, underneath will be found small, reddish tinted "bugs"—very soft-bodied, helpless creatures—clinging to the bark. This is one form of the aphis, which of itself does comparatively little harm, and is easily eradicated by sprays.



How the first form looks

However small and helpless these first foragers appear, their destruction by spraying should not be neglected, for their presence is an almost sure indication that the tree will soon be infested with the serious root form. Too often that infection has already taken place, necessitating more radical measures.

With cold weather the branch form disappears. Fortunate is the orchardist if the species has not merely emigrated to the roots. There, by injecting a poison, they cause the formation of galls and enlargements, restraining and finally destroying the functions of the roots.

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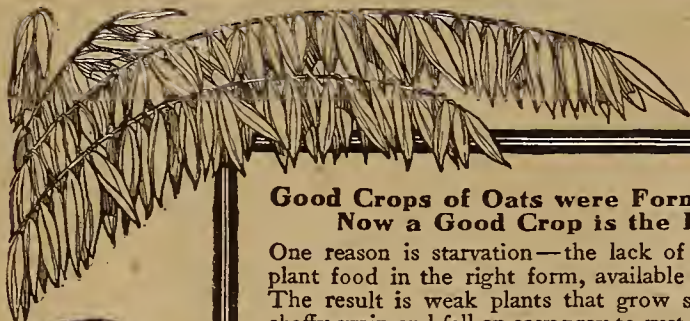
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appearance, and do not grow well. They have the look of a tree planted in unsuitable or shallow soil. It is, in fact, a case of plant-starvation.

A reliable indication of the presence of the aphid may be found, when none of the branch forms are visible, by examining closely all sun-scalds and pruning scars. If the aphid has been abundant at any recent time, these scars present a roughened, granular, appearance.

For the woolly aphid prevention is always better than cure. The first few years of a tree's life are the most critical. So, when purchasing nursery stock, be sure to examine the roots for galls, and refuse all stock if the aphid is present.

Treat the roots of all suspected nursery stock to a bath for a few seconds in water, kept at one hundred and fifty degrees Fahrenheit. Keep the ground around the young trees well cultivated and manured, for the more vigorous the tree, the greater power it has to resist attack.

To free a badly infested orchard of this insect is a hard and discouraging undertaking.



This form does the damage

ing, but it may pay if other conditions are favorable. The chief difficulty in controlling the root form is the protection given it by the soil. It is advisable to remove a few inches of earth from the surface, for a short space around the trunk, before remedies are applied.

In case the owner has facilities to heat and apply water at nearly the boiling-point, that is perhaps the cheapest and most practical remedy. Enough should be used to thoroughly soak the ground to a depth of several inches. Other remedies recommended are kerosene emulsion, and strong soap, or tobacco washes, applied in the same way; or soot, ashes, or tobacco-dust, buried in the soil about the crown.

LESLIE L. HASKIN.

Promising Garden Fertilizer

A LITTLE over twenty years ago I became acquainted with the phosphatic manure then advertised under the names "basic slag," "Thomas slag," "odorless phosphate," etc. I used it to some extent for grain crops, more particularly buckwheat, and with excellent results. I objected to it mainly on account of its price, then \$23 per ton, and quit using it. It contains from 15 to 19 per cent. phosphoric acid in fairly available form, or a little more than acid phosphate contains of the soluble. The latter, however, has some tendency, especially if combined with muriate of potash and nitrate of soda, which have a similar tendency, to produce an acid condition of the soil. Almost all our common garden vegetables require a somewhat alkaline soil. Thomas slag has a decidedly alkaline reaction, and its application in most cases will be safe for these crops. Sometimes we may not know exactly to what extent the results must be credited to its phosphoric acid, or to its lime contents. Thomas slag can now be had for \$14 or \$15 per ton, or at a little less than \$1 per unit of phosphoric acid, which compares favorably with the cost of acid phosphate. The latter, however, is a first-rate thing to mix with stable manure and to use as deodorizer in stables, hen-houses, etc., while Thomas slag should not be used in that manner, no more than lime. For a garden fertilizer, by itself where phosphoric acid seems to be needed, or in combination with sulphate of potash, dried blood, etc., Thomas slag seems to hold out considerable promise, and I strongly recommend it for trial.

T. GR.

Storing Onions

ONIONS to keep well must be stored in a cool and dry place. That is all there is about it. A little freezing does not necessarily hurt them if they are not exposed to frequent freezing and thawing. I have not yet brought our lot from the barn. They are placed in baskets and crates in the granary. If brought in when very cold to a warmer room, however, we must look out that they will not gather too much moisture by sweating. I expect that we have onions to use right along until April or May, or until our new green onions come in from the outdoor patches of White Portugal.

T. GR.

Plant Fruits You Can Grow

Don't waste time on kinds not adapted to your section. An apple which is fine for Maine may be a complete failure in the Carolinas. We grow all the leading varieties in our mammoth nurseries and have tried most of them in our widely scattered orchards. Hence we know which are best for most localities, and if you follow our advice you'll plant only trees known to do well in your section.

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It tells where each important variety does best, explains the influence of elevation and latitude, gives plans for planting, etc., Free if you tell us how much fruit planting you intend to do.

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Come to Berlin—see and select your own trees. We'll pay your hotel bill during your stay here.

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1 pkg. 60 Day Tomato	20c
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Write today! Send 10 cents to help pay postage and packing and receive the above "Famous Collection," together with our New and Instructive Garden Guide.

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Plant the quality grape CATAWBA - CONCORD

The grape for everybody everywhere.

A cross between the Catawba and the Concord—so scientifically made that it unites all their merits with none of their defects. Equal in quality to the finest hot-house grapes and as easily grown as the Concord. For ten years it has proved its superiority. Has received awards wherever shown.

Write at once for large descriptive catalog of Raspberries, Blackberries, Grapes, Strawberries, Currants, Gooseberries, Garden Roots, Hardy Perennial Plants, Shrubs, Vines, Roses, etc. It tells how to plant and grow them—free to everybody.

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- 1 Pkt. Asters, Floral Park Mixture
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- 1 Pkt. Poppy, Double-Carnation Fld.
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We will send the above 12 packets of First Class flower seeds, our new illustrated Garden Annual, and a due bill giving you your money back, all for 10c postpaid.

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TIRES, coaster brake rear wheels, lamps, sundries, parts and repairs for all makes of bicycles at half usual prices. DO NOT BUY until you get our catalogues and offer. Write now.

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18 Trees worth \$2.60 for \$1.75

- 1 McIntosh, 1 Banana Apple, 1 Niagara, 1 Elberta Peach, 1 Bartlett, 1 Clapp's Fav. Pear, 1 Montmorency, 1 Bing Cherry, 1 York State Prune, 1 Orange Quince. All Extra Size 2-year, 6 to 7 feet high—10 Trees for \$1.75. Everybody send for free illustrated catalogue. Est. 26 years. 250 acres.

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have a reputation for highest quality fruit and heavy yields. \$300.00 per acre no uncommon returns. 1100 acres fruit plants, trees, farm seeds, etc. Special Premium—With every \$1.00 purchase 10 kernels grown from the 10 grand Champion Ears of Corn of the National Corn Show with extra charge. We paid \$350.00 for the 10 ears, and they are worth it. Send for handsome catalog.

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GARDENING
By T. GREINER

Catching the Mice

IT IS easy enough to catch the mice that come into the house and pantry and other storage-rooms. Putting edibles out of reach and keeping some of the many traps known, from the common home-made figure 4, or the bowl and thimble, to the little spring or lightning trap, persistently set and baited, will soon put an end to all the trouble, at least until the arrival of a new mouse family. But to catch the big field-mouse that now and then gets into green-houses, celery-pits, etc., feeding on the new green growth or tender roots, is often quite a task. I try to find the holes where they enter, or a fresh-made run, and set one of the spring traps, not baited, in front of the opening, or in the mouth of the run. With a little persistence, I soon catch the annoying visitors. Most other species of mice can be caught in baited traps, and for bait I have found nothing better as yet than nut-meats and seeds of sunflower, pumpkins or squashes. Sometimes, however, we have to make use of all of our wits to get rid of an especially wary little mouse.

Asparagus Substitutes

I am very fond of asparagus. During its season I want it nearly every day. In the markets we are asked a pretty good price for it. For that reason I cannot see how I could get along without a bed of very generous size, and I have it. But when we cannot have asparagus, I am always ready for substitutes. We shall soon have plenty of witloof (chicory sprouts grown in a deep box in the greenhouse). Just for information, I bought the other day some of the imported witloof in a Buffalo fancy grocery store. It cost thirty cents a pound. It is very nice, although I do like the real asparagus better. Another vegetable that may serve as an asparagus substitute is the Globe artichoke. I found this also in the grocery already mentioned. But the price seemed to me almost prohibitory. "Only" twenty-five cents is asked for one of the little heads. Just for information, of course, I had to buy a head, scarcely more at the price. Although this plant is of very easy culture, being a perennial that only needs a little winter protection by a good mulch, it is almost wholly absent in American gardens. It may be grown from seed sown in spring; but in that case will hardly give many flower-heads the same season. The suckers which grow freely about the root-crown, may be used for propagation, and if you can get or buy some, I would advise you to make a trial of this interesting plant. Give each plant two or three feet space each way. It wants rich soil, and will grow from three to five feet high. The heads are three to five inches across before they open, and are then ready to be cut and used. The best way to cook them, I think, is just as we cook asparagus. There are other things that can be used for asparagus substitutes. Among them we have a kind of lettuce (*Lactuca angustana*); the midribs of Swiss chard; young sprouts of the poke, scoke or pigeon berry; of milk-weed; etc. Years ago when we grew hops, we often used the young shoots of this plant, and found them very acceptable.

Sawdust Not Harmful

The question is often asked whether manure containing sawdust (used for bedding) is safe to use for garden crops. I am using planing-mill shavings quite freely, sometimes exclusively, for bedding animals. I can keep my cows cleaner with such bedding than with straw. This is the manure I have used for my garden for years, and I have never noticed ill results. I would use all I could get. I also have bought stock-yard manures made from animals bedded with sawdust, shavings and sand, invariably with satisfactory results. It does not surprise me, therefore, to read in the Maryland station bulletin for September, 1911 (No. 158), that the results obtained in tests made with manures containing sawdust compared with manures containing no sawdust proved the entire harmlessness of the sawdust admixture when the manures were applied to greenhouse crops. If you can get manure for your garden, don't be afraid to apply it, even when sawdust has been used for the bedding.

Forced Rhubarb Now

In the cool section of my little greenhouse, where celery has been stored for winter use, as the celery goes out, rhubarb goes in. The clumps of roots were ready, frozen stiff. They are brought in, placed on the ground under the bench, bedded in earth, and covered well with good soil. As soon as they thaw out, they begin growth, and in a few weeks we have what rhubarb we want to use, and this exceedingly tender and brittle. It is really a treat, even if it were no better than rhubarb is from open ground in spring. In reality, the quality is far ahead.

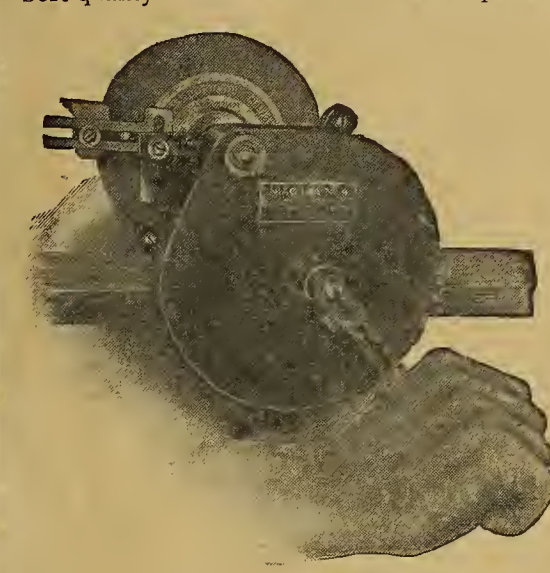
Here is a grinder for farm or shop or home use that is different

There is a substantial, well-made character to this machine that you don't find in the ordinary hand or foot-power grinder. The

CARBORUNDUM NIAGARA GRINDER

is made entirely in the Carborundum factory—under most exacting conditions and by expert mechanics.

The gears, which are the most important part of the mechanical construction, are die cast and perfectly true. The handle and all parts subject to strain are made of best quality malleable iron. All small parts are heavily nicked and the casings are handsomely enameled in brown.



The wonderful part of the grinder, however, is the Carborundum Grinding Wheel—the hardest, sharpest, most perfect grinding material in the world.

A Carborundum Niagara Grinder is almost a necessity in the modern home or about the farm to keep tools and implements in condition and perform other grinding operations.

Made in 15 or more styles, hand and foot power—or with attachments for gas engine or other power. Special styles for grinding sickle knives and other similar implements. Prices \$3 to \$15.

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Ask also about the wonderful Carborundum Sharpening Stones.

Niagara Grinders—Nos. 1 to 4

Ideal little machines for shop, home or farm. Powerful, compact, noiseless, dirt-proof. Adjustable tool grinding guide makes possible a wide range of work. Medium grit Carborundum wheel.

No. 1—Wheel 4 in. in diameter 1 in. thick—\$3
No. 2— " 5 in. " " 1 in. " —\$4
No. 3— " 6 in. " " 1 in. " —\$5.50
No. 4— " 7 1/2 in. " " 1 in. " —\$8

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Planet Jr 2-row Cultivator

"It's the greatest general purpose implement on the farm", writes an Ohio farmer of **No. 72 Two-Row Pivot Wheel Cultivator, Plow, Furrower, and Ridger.** No other implement in large crops saves as much time, labor, and money.



Think of the saving in cultivating perfectly at one time 2 rows of potatoes, corn, beans, etc. in rows 28 to 44 inches apart! Simple and works like a charm in check and crooked rows, and in rows of irregular width. Never leaves open furrows next to plants. Cultivates crops up to 5 feet high and covers 2 furrows of manure, potatoes or seed at one passage. Designed by a practical farmer; fully guaranteed.

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START RIGHT. The success of your garden depends on the reputation behind the Seeds. By the time poor seeds have proved themselves worthless it is usually too late in the season to start all over with good Seeds. Start right, and prevent disappointment.

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- One packet Ponderosa Tomato
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- One packet Mammoth Butterfly Pansies
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[Packed in a Coupon Envelope, which will be accepted as 25 cents in cash toward payment on your next order amounting to \$1.00 or over.]

All we ask is—tell us where you saw this advertisement and enclose 10 cents in stamps to only help pay cost of sending all the above to you.

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NEW AUTOMATIC OILING

The most important Cream Separator improvement since the introduction of the present type of De Laval machines.

The new automatic oiling De Laval Cream Separators are now being supplied in all sizes, and this improvement constitutes another great step forward in cream separator construction—the one thing possible in betterment of the previous De Laval machines of the present type.

The new system of De Laval automatic oiling is distinctively different from any other splash or spray system in that there is a constant regulated feed of fresh oil and discharge of used oil. Other splash systems use the same oil over and over, until it soon does more harm than good.

In the new automatically oiled De Laval machines all gears, shafts and bearings practically float in a mist-like spray of oil and literally never touch each other during their operation.

De Laval agents will be glad to exhibit the new machines and demonstrate the working of the new automatic oiling system, which more than ever enhances De Laval superiority in every feature of cream separator practicability.

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\$29.50 Buys This Elegant
Top Buggy.

Retail Price \$60.00. Buggies, Surreys, Spring Wagons, Farm Wagons. We have cut out our Jobbers, our Wholesalers and our Retailers and offer YOU their profit. Write today for our Free Catalog and Delivered Prices. Mutual Carriage & Harness Mfg. Co. Station 65-G, East St. Louis, Ill.



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Five Years.

Amatite ROOFING HAS "MADE GOOD"

The roofing industry is changing its direction. A few years ago almost everything on the market had a "smooth" or "skin coat," which required painting every two or three years.

Then Amatite came with its mineral surface which needs no painting. Its economy was evident at a glance because it cost no more than the old type of roofing and it will last as long or longer.

The tendency of the whole trade is to follow Amatite. Imitations of the mineral surface are appearing in the market and nearly every roofing manufacturer is trying to produce a roofing, which, like Amatite, will need no care after it is laid.

Many people would buy their roofing with the best of intentions

and then when the time for painting came around would neglect to attend to the matter at the proper time.

In consequence, roofs that needed painting every two years would only get it when they began to leak and then it was usually too late.

The use of Amatite solves the whole question!

FREE SAMPLE

A sample of Amatite Roofing showing the no-paint mineral surface will be sent free to any inquirer on request. Address our nearest office.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia
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Live Stock and Dairy

Practical Cow-Testing

I WANT to tell FARM AND FIRESIDE readers how they can distinguish their money-making cows from the others. The fact that thousands of dairymen are feeding and milking a large percentage of their cows at a loss is too well established to require proof or further comment, but "How can we distinguish the debit cows from the credit cows?" is the puzzling question to many.

Here is the answer. First, find out what each cow's keep costs you and, second, what each cow brings in. The cost of the cow's keep is so important a problem in agriculture that hundreds of experts have worked it out independently and found it to be from fifty to one hundred dollars per year, counting everything—value of pasture, investment, buildings, labor and feed. This also gives the cow credit for the value of her calf. Figure it out for yourself, and you will find this range of cost to be about right, and you will probably get about seventy-five dollars for the sum total cost of keeping each cow a year.

With that part of the question settled, now find out what each cow brings in. First rule a book about this way, having a separate page for each cow. For our purpose, each cow's record must be kept separate and not bunched with the rest of the herd.

course, be richer than if the rich strippings were not milked out. With the understanding of these common principles, one is ready to test milk intelligently and draw the proper conclusions.

The test of one sample will very seldom give a trustworthy result, and under no circumstances should a cow be condemned because one sample of her milk shows a low percentage of butter-fat. It is unnecessary to test every milking, but the test of milk produced on the fifteenth of each month will, when averaged up for a year, give a very fair indication of the fat content in all the milk.

Always take the samples from the entire milking and not by milking directly into the sample bottle. An outfit and instructions for testing milk can be secured for about five dollars from any dairy-supply house. Several farmers usually club together in testing their cows, thus saving expense. A good dairy cow should yield at least six thousand pounds of milk and two hundred and seventy-five pounds of butter-fat in the course of a year. The present world's record for butter-fat production by a single cow is nine hundred and ninety-eight and a fraction pounds in a year.

To find the amount of butter-fat produced by each cow during the year, multiply the number of pounds of milk produced each month by the test secured from the mixture of morning and night's milk produced on the fifteenth of that month, add the totals, and see how the result compares with two hundred and seventy-five pounds. A cow will generally be most profitable during her second, third, fourth and fifth years. If she is

Yearly Record for Bessie

Age *Three*

Breed *Shorthorn*

Date	JAN		FEB		MAR		APR		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N
1	9	11	10	11																				
2	10	10	9	10																				
3	8	11	10	9																				
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25	10	12																						
26	11	11																						
27	10	11																						
28	11	9																						
29	11	10																						
30	9	11																						
31	10	11																						
Total	260	310																						
Avg	3.6	4.0																						
Butter	24	14																						
Fat																								

If milk is being sold at so much a gallon or hundredweight, the amount each cow earns can be learned by simply weighing the milk, adding up the totals for the months, and multiplying by the price, but if the milk or cream is sold according to the amount of butter-fat it contains, the milk of each cow should be tested for its richness. Ordinary cow's milk will vary from two and one half to seven per cent. of butter-fat, and the milk of a particular cow will vary as much as two per cent. at different seasons of the year.

The percentage of fat in the milk increases as the period of lactation advances. It is also influenced greatly by the time between milkings. If a cow is milked at five A. M. and seven P. M., the night's milk will generally be poorer than the morning's milk, since the shorter the time between milkings, the richer the milk is likely to be. If a cow is stripped thoroughly, her milk will, of

beyond her fifth year and her butter-fat record is low, there is little reason to believe that she will do better the following year, and such a cow should be disposed of. A two or three year old should be given a second trial for a portion of a year at least.

Grading Up a Herd

If the milk of the entire herd is rather low in butter-fat, a sire from a strain having a good record for butter-fat production should be secured. Careful breeding is the only effective method of raising the average richness of herd milk. The process is somewhat slow, but, if promptly begun, very encouraging results can be realized after the second year. Each successive year will add to the value of the herd and to the satisfaction of the owner. D. S. BURCH.

Fix the fences before the live stock get the spring fever.

Small Pigs at Profit

Two Vermont brood-sows with nothing unusual in their characteristics or in their care taught us a big lesson. Any person of intelligence should be able to duplicate their performance. Few investments of a like amount will yield so large a return.

Our Berkshire sow farrowed a litter of five pigs when she was nine months old. This was the only remarkable thing about her. She was a spring pig herself, and her pigs coming in cold weather, she raised but three. These were ready to wean before pigs became plentiful in the spring, and at two months sold for \$5, each. The next litter arrived the last of August, and numbered nine, of which all lived except the titman. The remaining eight brought \$3, each, at five weeks old. Her third litter came in January. There were ten pigs in this litter. It required more than ordinary care to keep them comfortable in such cold weather, but they well repaid the care, bringing \$35 when two months old. In July she had a litter of twelve, losing only one. These sold, at four weeks old, for \$27.50. The last of December out of a litter of ten there were seven that lived, and sold for \$4, each, at two months. Her June litter of twelve came when pigs were plentiful, and sold, at four weeks, for \$2, each. In November she had eight more, which sold, at four weeks, for \$3, each. In April there were eight more. I sold them, at two months, for \$5, each, making forty dollars more. In October there were eleven that lived, and brought \$27.50. In March there were seven, that sold for \$24.50.

Young sows to take her place were available, and since she was becoming clumsy and heavy, she was fattened and sold for \$30. She cost \$10 when she was six months old, being a rather small shoat for her age. We kept her not quite four years, and her food up to the last six weeks of her life was very inexpensive, being milk, waste potatoes, pumpkins, vegetables, soft corn, weeds, table-waste and wheat-bran. The bran was the only part of her food that was purchased. She ran in the manure-cellar except when suckling pigs. In cold weather she had a farrowing-pen in the warmest part of the barn stables, and in warm weather, a pen on the ground under a shed. She had in all eighty-five pigs that lived, and these sold for \$289.50, or an average of \$72.37 a year.

The record of a White Chester is equally as good. This sow had bad luck with her



These six-months-old pigs made us money

first litter, owing wholly to carelessness. Her pigs were due in March. The date was forgotten and the pigs came unexpectedly. It was too late to move her, and the manure-cellar was cold. Although scarcely a year old, she had twelve pigs, all of which died immediately, and she came near to dying herself. As she was of fine stock, we kept her. In September she brought us twelve more pigs, and raised eleven of them. Seven sold for \$2.50, each, at four weeks, and four for \$4, each, at two months. We did not try for winter pigs with this sow. She had but one litter smaller than twelve, and one litter numbered fourteen, and one thirteen. One of her last litters numbered only seven, but the pigs were very large and grew rapidly, bringing \$5, each, at four weeks old. Two of this litter dressed over three hundred pounds, each, at eight months old. We kept her until she was six years old, and sold her for \$35. Had her first litter not gone wrong, she would have averaged as much per year as the Berkshire. She gave birth in all to 129 pigs. I do not think she consumed as much food as the Berkshire.

Had these sows been of registered stock, every pig might have been sold for five dollars at four weeks old, as that is the usual price for such pigs in our part of Vermont. I am fully convinced that it pays to raise pigs. When one gets a sow that raises large litters of good pigs, it pays to keep her as long as she is in good condition.

Mrs. J. W. MATHIE.

Money from Farm Efforts

A Wisconsin milk farmer who owns a herd of about sixty head of high-grade and pure-bred Guernseys, by careful mating and rigorous selection, has developed the production of his cows to an extent where the average animal returns a net profit in excess of \$55 per year. As an illustration, one of the cows made a gross yield in one year of 8,576 pounds of milk, which contained 427.61 pounds of butter-fat that was worth \$128.28, at thirty cents per pound. The cow was also credited with \$15 for skim-milk, which brought her aggregate return up to \$143.28. It cost \$63.78 to pay for her feed and care, which left a net profit of \$79.50, and this on a feeding ration which included quite a bit of purchased

grain. At present the dairy menu on this place comprises thirty pounds of silage, ten pounds of alfalfa-hay, and one pound of bran to every four pounds of milk produced daily for each animal in the milking herd. As occasion permits, a little corn-stover is fed, and to lend variety to the grain ration, some Ajax flakes, corn-meal, gluten feed, or brewer's grain is used once in a while. The banner female in this stable recently produced 11,092 pounds of milk with a butter-fat content of 576 pounds valued at \$172.80, to which \$15 credit for skim-milk must be added, making a total of \$187.80. This animal's feed-bill amounted to \$66.89, leaving a net profit of \$120.91 as a result of the year's work of this dairy machine. The general plan on this practical farm is to furnish each cow a daily ration consisting of five to eight pounds of concentrates, thirty to thirty-five pounds of silage and eight to ten pounds of alfalfa.

A middle-western dairyman who this year raised 500 tons of timothy-hay, is selling this roughage, and with the funds thus gained he is buying alfalfa-hay of excellent quality out in Idaho at \$5 per ton, shipping it to his home farm at a cost of \$12 per ton, and as a result is filling his barns and mows with \$17-per-ton alfalfa in place of the timothy-hay which he grew and sold at \$20 and \$21 per ton. It is just such clever deals as this which enable some dairymen to make good money under conditions which would drive the average general farmer to the wall. This farmer feeds a winter ration of ground oats, corn-meal, gluten feed, dried beet-pulp and Ajax flakes, which is supplemented with corn-silage, green sugar-beet tops fed fresh from the field while they last and alfalfa-hay. As he raises several acres of field-peas each season, he also gets the use of the pea-vines to introduce into the dairy menu as an occasional variation.

GEORGE H. DACY.

Wool this year in Boston is selling well, but very slowly, for the manufacturers, contrary to their usual custom, have so far been buying in small lots, as needed.

Interesting Dairy Wrinkles

"WHY," said grandmother as I explained the process of making buttermilk cheese, "that's nothing new. I remember when mother made that kind of cheese. She used to mix a little sour milk in with the product so that it would make up easier." Such was the disappointing tale that I heard when I went to tell about the process I thought was new.

The buttermilk is heated to 134 degrees, the clear whey is drawn off, and the solid material placed in a draining-cloth, mixed with salt, and the whole makes buttermilk cheese. Eight pounds of cheese results from 100 pounds of buttermilk. The cheese sells regularly at 15 cents per pound, which means a revenue of \$1.20 or more from 100 pounds of what is most generally considered a waste product. As it is on the order of cottage cheese, 5 cents must be allowed for packages, 5 cents for expense and 40 cents for labor, leaving a profit of 70 cents on 100 pounds of buttermilk, in addition to the whey.

Whey or Gasteus cheese is another by-product that has extensive sale in many Italian communities. In many places whey is a waste product, and seldom does it have

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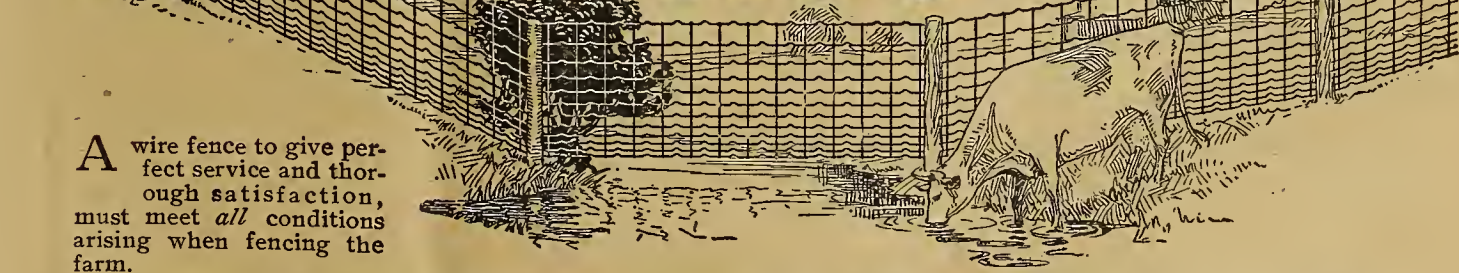
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any particular value. As there is no law regulating the standards of this milk-sugar and albumen product, the yield per 100 pounds depends a great deal on the skill of the maker. The cost of turning 100 pounds of whey into cheese is approximately 75 cents.

Milk-sugar is another product about which little is known. Average milk contains some 5 per cent. of milk-sugar, so the yield of this product from a large amount of whey is rather heavy. Albumen, which is the main constituent of the white of an egg, is contained in milk to the extent of 4 per cent. This product has a great value as a food and is a by-product of the secret process of extracting milk-sugar. Generally the whey is boiled off one half and hydrochloric acid is added to coagulate the albumen. It is usually supposed that the albumen so extracted is generally used in the making of many of the so-called "baby foods."

Scientific Milk

In these days of scientific progress it has become entirely possible to make milk without the aid of a cow. Indeed, milk can be made out of water and vegetable oils. Many things that are capable of doing a great deal of good in the right hands can be made to do the most harm in the hands of the unscrupulous. This may be said of the homogenizer, which consists primarily of a series of pumps, generally in pairs, which force the milk or any other product through a fine sieve at the enormous pressure of from 3,000 to 6,000 pounds against some hard surface. The impact is such as to break the globules into exceedingly minute pieces not more than 1/100,000 of an inch in diameter or even smaller. Thus the fat globules become so small that the friction on the surfaces of them become greater than their specific gravity, and the globules will not rise to the surface.

Thus ordinary 18 per cent. cream, when homogenized, appears so thick that one would think it 50 per cent. cream. The fat does not rise to the surface and does not separate even on standing for several days. It can be used legitimately, however, and to a great extent is, in the manufacture of ice-cream. Frequent rush orders come on the makers of ice-cream when they do not have enough of the proper ingredients on hand. Butter and skim-milk are usually to be had, and by running them through the homogenizer, cream for ice-cream purposes is to be had on short notice. The use of the machine in this way benefits dairyman and manufacturer alike. But there is getting to be a tendency in certain states where dairy laws are very lax, to homogenize starch mixed with a little skim-milk and glucose, or skim-milk and cotton-seed or another vegetable oil for ice-cream purposes. The Greeks are particular offenders in this line. Ice-cream, according to the national standard, should contain 14 per cent. butter-fat. The writer has frequently obtained ice-cream that has tested less than 1 per cent. of butter-fat.

Powdered Eggs

Think of the boon it would be to the thrifty city housewife, when eggs are selling at 50 cents, to be able to take a little powder out of a box and to be able to make a richer custard than she would be able to make with the eggs. That is what the new skim-milk powder will enable her to do. This product is unquestionably the richest on the market. Though it can never take the place of the fresh milk as it comes from the cow, it can be used to a greater advantage for nearly all culinary demands. One family that has been using it for some time as a try-out has been able to eliminate the use of eggs, and to cut down on the amount of flour. It contains 49 per cent. of nitrogen, while eggs contain 9.5 per cent. Thus, as soon as the product gets well on the market, its possibilities are hard to measure. This process is also secret. Where they are establishing plants, they pay 35 cents per 100 pounds for skim-milk. It has been figured that the same product for pig-feeding is worth but 20 cents, so with the consumption of this product that is bound to come the proposition looks good for the dairyman. Whole-milk powder is also made, but, on account of the butter-fat contained in this, it soon becomes rancid. Thus it does not have the advantages of the skim-milk preparation.

CLYDE A. WAUGH.

Soy-Beans for Swine

THE soy-bean is one of the most valuable feeds for swine. It is rich in protein and also rich in fat. Since the soy-bean is rich in protein, it must be handled judiciously so as not to overfeed the animal on this nutrient. It has been shown by the Illinois Experiment Station that overfeeding on protein will stunt the pig. One bunch of pigs that were fed more than the necessary amount of protein weighed only 170 pounds when eight months old, while other pigs that were fed properly weighed 290 pounds.

As far as fat or other extract is concerned, ordinary rations for swine are deficient, and when this factor can be brought up by feeding soy-beans, the ration will be improved thereby. WM. DIETRICH.

Feeding for To-morrow

WHEN we feed and care for our dairy cows to-day, we should think that we are also giving them attention for to-morrow as well. Too many times we go through the work of the days as they come and go perfunctorily, with little or no thought upon the fact that our work is very far-reaching in its results. I have noticed this particularly in the case of our own cattle.

In two respects, at least, do cows suffer from such a mistaken policy. In the first place, they are not able to nourish their coming offspring as well as they should, so that the calves when they come are apt to be smaller than they would have been and poorly nourished. A moment's thought will show why this is so. A certain amount of the food we give our cows goes to maintain the bodily vigor of the cow herself. After that as much as possible is applied to the growth of the coming animal. If the supply be stunted, naturally the calf must suffer. Young men are apt to be the most frequent sufferers from such a policy. They do not know the result of poor feeding as they will a few years from now, unless, indeed, they have studied the matter more thoroughly than most farm boys have, either in some school or under the leadership of their fathers or some other good friend. I believe every farmer boy ought to be given careful and definite instruction along this line by some competent feeder. It might save them some serious failures in future days were this done.

EDGAR L. VINCENT.

Much is due to the management of the milk and cream as regards the color and texture of butter; but even when these and the quality are all right, if it is sent to market in an unattractive form, it will sell at a lower price in consequence.

Feeding Sheep Coarse Straw

THROUGHOUT the winter considerable bright, clean oats and wheat straw can well be fed to the older sheep on the farm. Experience shows this to be a safe rule to follow, if the farmer himself adds the "brains."

The experimentalist tells us the comparative values of corn-stover, wheat-straw and oats-straw to be as found in the following table:

	DIGESTIBLE NUTRIENTS IN COARSE STRAW	Carbo-	Protein	hydrates	Fat
Corn-stover	1.6 %	20.0 %	1.12 %	
Wheat-straw	7.8 %	16.7 %	.47 %	
Oat-straw		22.0 %	.76 %	

Here the digestibility of corn-stover is shown for comparison to illustrate the relative value of coarse straws. Thus it is seen that coarse straws nearly equal, if not equal, the corn-stover as roughage for sheep during the time corn-stover is available. Now this proves to him who has fed corn-stover satisfactorily that he can find in straw from wheat or oats a fair substitute for corn-stover. It is a known fact that the rougher parts of the stover are generally left; but with straw all is generally equally digestible and quite palatable. With this the case the straws have some advantage over corn-stover.

Other conditions affect the feeding of the straws, and care must be used, or regret will follow. The usual way of feeding straw—namely, allowing all the stock to crowd around the stack—is not the best for the sheep. Dirt and litter fills the wool, sheep are often hurt and killed, and straw is wasted. Where bearded wheat was sown, the loss and annoyance from the beards is considerable, because wool and wheat-beards are inseparable, which knocks the profits off the wool sale pretty quickly.

The man forced to feed bearded wheat is in a hard position, and the farmer who has other feed should never allow his sheep to feed on straw from bearded barley or bearded wheat.

The English and Scotch cattlemen save their wheat and oats straw very, very carefully and believe it worth much as roughage for cattle and sheep. Their straw, however, is cured perfectly and housed or stacked perfectly, thus insuring a bright, clean product for their stock. Sometimes they have their own thrashers and each morning before breakfast thrash out enough straw from the stack to feed that day only. American farmers would get much more out of their oats and wheat straw if they stacked them better and at every turn bunched the grain in such a manner that cleaner, brighter straw was left to feed. Carefully save the "straws," and feed the best of them.

J. C. COURTER.

Grain for Work-Horses

ON a recent visit to a farm where thoroughbred Percheron horses are kept, I was much interested in the experiments that this farm worked out in testing corn and oats as feeds for work-horses. In the test six Percheron geldings were used, one horse in each team being fed ear-corn and the other one oats. Weights of all the horses were taken each week throughout the experiment. By this test a fair and square test was possible. While the experiment was not

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carried long enough to justify very comprehensive statements, yet the figures warrant the drawing of certain conclusions. When mixed clover and timothy-hay are fed in combination with corn, the horses endured hard work during the hot weather, as well as did the oats-fed horses. The use of corn to the exclusion of other grain for a period of forty-eight weeks was not detrimental to the health of the work-horse. It has been stated often that corn as a grain ration induces laziness and lack of endurance, while oats, on the other hand, induces both endurance and spirit.

Neither of these named conditions were found at all to be true in these experiments. It was found also that ear-corn was somewhat cheaper than oats and just as efficient, pound for pound. These experiments are in line with others previously conducted by experimental stations, indicating that there is no special merit in any particular feed. What is desired in feeding horses is to give them a balanced ration, from which will be obtained the necessary digestible nutrients in proper proportions. On every farm there is a large quantity of feeds available, all home grown, and through the use of which the farm horse can be maintained in splendid working form without the expense of purchasing chops or other commercial feeding stuffs. Timothy-hay as an exclusive roughage material has in recent years received a blow. No longer can the claim be advanced that it is the only desirable roughage feed for horses.

In feeding farm horses to secure the highest efficiency, let the aim be to select roughage materials that are nutritious and wholesome and at the same time free from dust and mold, with the proper supplement of corn or oats or other home-grown materials. When this practice is followed, you will get efficiency and the maximum of work at the least expenditure of effort and expense.

A. E. VANDERVORT.



A young team

Proper Eye-Treatment

I AM asked the proper treatment for a yearling heifer whose left eye is diseased. It began watering as though something were in the eye, and three days later became covered with a white film. The heifer cannot see out of that eye.

The cause of this condition of the eye is doubtless contagious ophthalmia, which, if properly handled, proves curable. The treatment is as follows:

Isolate the cow and darken her stable. Twice daily wash the eye with a saturated solution of boric acid. Use a fresh piece of absorbent cotton at each washing. Each other day blow between eyelids a little of a mixture of equal parts finely powdered boric acid and calomel. When the inflammation subsides, but the eyeball remains opaque, stop other treatment, and once a day wet eyeball with a solution of two grains of nitrate of silver in one ounce of distilled water, to be kept in a blue glass bottle to prevent chemical change. Make the application by means of a soft camel's-hair brush, or with a medicine-dropper. Where the disease has affected several cattle, it is well to at once disinfect and whitewash the stable. Also keep cattle off wet, low pastures at times when this disease is present, as it seems to be contracted in such places. It also may be brought into the herd by new cattle, the disease being contracted in shipping.

A. S. ALEXANDER.

The Swine-Breeder Test

I HAVE always considered the selection, care and feed of the new brood-sow the test of the man as a swine-breeder.

The brood-sow, old or young, is the foundation of hog-raising. Like produces like. A good sow properly cared for is a mother of good pigs if properly mated.

To make a good selection, the breeder must have an ideal sow sharply outlined and every detail distinctly developed in his mind. Knowing what he wants, a man can watch his herd and his selection has been unconsciously made by the time he acts.

1. The breed or grade must be decided upon. A first cross of two full bloods makes a fine animal for market purposes, but not for breeding. Such animals degenerate with each generation. Chose a pure blood if possible with a good history behind its birth. Cooperative work at this point is a great help, as by exchange of services inbreeding is shunned, and if a cross for market pigs is desired, it can be made where more than one breed is kept in a neighborhood.

2. The brood-sow must be well fed every day of her life during the growing age. Especial care must be taken at the time she is weaned that no stop is made in growing.

3. She must be built right for breeding.

4. She must be separated early from any stock being fed for market or for show purposes. Her ration must be to build, not to fatten. Care must be taken that she is not overfed, merely kept in a prime growing condition.

5. She must be induced to take daily exercise, both before and after mating. Kindness often leads us to be cruel. Wishing to have our brood-sows extra comfortable during the cold winter, we cuddle them too much (if that word means to indulge). Want of exercise is a great factor in producing poor results at farrowing-time.

6. The feed fed to a sow must be well balanced, as it influences the growth of the future litter. The health, vigor, action and food of the mother has much to do with the thrift of the young. Do not for one moment think a balanced ration can take the place of an active daily exercise.

Exercise and ration must go together at all times.

7. Never keep many brood-sows together. It is dangerous in cold weather. In conclusion, sows properly selected for form, properly cared for, made to take active daily exercise and not to lie on or be pressed by other hogs will need but little attention when farrowing-time comes. Farrowing care is another chapter.

H. LOWATER.

Hind Legs are Stiff

The Disease is False Dislocation and May be Cured

I AM asked how to treat a young mare whose hind legs become stiff without apparent cause. Sometimes the left one is affected, sometimes the right. At such times she is powerless to lift the affected limb, but if she takes a step, the leg seems to be all right in an instant.

The cause of this condition is obvious. The patella of stifle joint slips out of place now and then, and when it is out, the leg is thrust backward and the hock joint is held in a comparatively straight line. When the patella snaps back into place, the leg assumes its natural position. Where the patella remains out of place, there is complete dislocation; where it slips in and out, the condition is termed "false dislocation." The cause is weakness of the muscles and ligaments of the stifle joint. This is most often seen in young growing colts, before the parts have attained full strength.

Tie the filly up short in a narrow stall, so that she cannot lie down. Clip the hair from stifle joint, and blister thoroughly with cerate of cantharides. Rub the blister in, a little at a time, for fifteen minutes; wash it off in two days, and then apply a little lard daily. Blister the other joint in a week after washing the blister from the first joint. Never blister two legs or feet at the same time. In a bad chronic case, where one stifle is affected, it is necessary to keep the foot of that leg advanced under the body so that the patella cannot slip out of place. This is managed by running a rope or strap from a collar around neck, between fore legs and then to a hobble around pastern of lame leg, to which the free end of the rope is then attached. This is kept in place until the muscles and ligaments have become strong.

A month usually has to be allowed for this to take place. In slight cases rubbing the stifle with a stimulating liniment twice daily often proves sufficient. A suitable liniment is made by mixing together half an ounce, each, of aqua ammonia and turpentine, four ounces of druggists' soap liniment, and water to make one pint. In all cases the animal should be fed generously to encourage growth of strong muscles.

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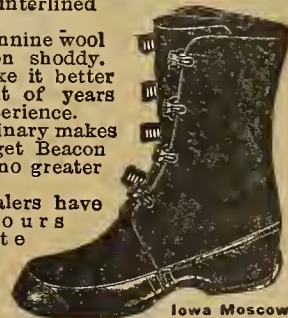
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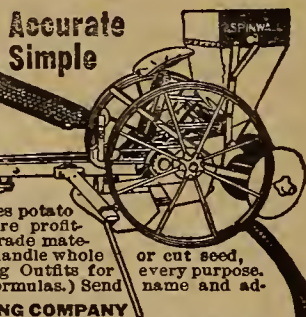
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AMERICAN HARROW COMPANY
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Crops and Soils

Cheaper Clover-Seed

EXPERIMENTS with red-clover-seed production are being conducted by the Bureau of Plant Industry in cooperation with the state experiment stations in Iowa, Indiana, Ohio and Virginia. In Iowa and Indiana the work is in direct cooperation with the state experiment stations, while in Ohio and Virginia it is on the testing-grounds of the Bureau of Plant Industry which is working in general cooperation with the state experiment stations. The investigations were prompted by the specific need on the part of the American farmer for cheaper clover-seed, in order that larger areas on each farm may be seeded down to this valuable plant. One reason for the present disinclination of the ordinary farmer to seed more red clover as a soil-renovator is the high price of the seed. This is due to a considerable extent to the uncertainty attending the production of clover-seed under ordinary conditions. It is, therefore, thought to be a profitable line of investigation to determine just what are the critical factors in the production of a successful crop of clover-seed, with the idea of our being able to control such factors to a greater or less degree when they are once thoroughly known. In this way we hope to be able to make a successful seed crop a greater certainty each year than is ordinarily the case. With some of the uncertainties overcome, more farmers will feel justified in allowing clover to stand for seed, and the decreased price will enable much larger seedings to be made by the average farmer.

Some attention is also being given to the matter of the apparent inability of many fields to longer produce successful stands of clover which were taken as a matter of course a generation or two ago. This is a complex question, but the main difficulty appears to be a growing lack of humus in the soil, which when present in sufficient quantity enables the plants to successfully combat various troubles which otherwise handicap their successful growth. Variety tests with four or five of our promising strains of clover are also being undertaken to determine which strain is best adapted to any given locality. W. M. HAYS.

A Nitrogen Crop

A FIELD of forty acres on our Kentucky farm has been sown to sweet clover, the past season being the second after sowing. During the blossoming period, which lasted from the middle of June until the middle of August, the field was covered with honeybees.

The honey, by the way, which is made from sweet clover surpasses that of the common white clover, both in quality and quantity.

This field was seeded with sweet clover and bluegrass in the fall of 1909, and at present, November 20, 1911, the bluegrass is knee high and the seed-stalks of the sweet clover are so thick and tall that one can hardly get through them.

We gathered about forty bushels of seed, and could have gathered over four hundred bushels if we had cut and thrashed it. We were not after the seed on this piece of land. Our aim was to secure a good stand of bluegrass, and we have it, and the entire field is well seeded to sweet clover.

Sweet clover is a legume. Practically the same bacteria live on its roots that live on the plant-roots of alfalfa. Some people will say alfalfa is so much better than sweet clover, why not plant it? How do they know if they have never planted sweet clover? We first used sweet clover as an inoculator for alfalfa. The bacteria developed much faster in the soil sown to sweet clover than that sown to alfalfa. I have noticed that the plants of sweet clover do not depend on artificial inoculation or fertilization as does the alfalfa-plant. Another advantage is that seeding may be later. The seeding of sweet clover may occur with us any time after the first of October up until the first of December. We have the entire season for the maturing of other crops before having to remove them for preparing the land for seeding.

Making Sweet Clover Grow

On land where the following crops are grown, corn, tobacco, potatoes or tomatoes, all that is required in preparing the soil for seeding is a deep disking with a sharp disk-harrow and a complete working with the float or plank drag. This levels and firms the soil without making it too compact, and when the seed is sown and lightly harrowed in with a sharp-toothed drag harrow that leaves small ridges and furrows, the soil crumbles around the small plants during the winter and early spring, which starts them off before other vegetation has made its appearance.

To sow as a soil-restorer, on old fields that are badly gullied, there is no preparation required. The seed is sown broadcast,



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about twenty-five pounds per acre, any time during the fall, winter or spring.

The sweet clover yields as much forage, if not more, than alfalfa. From analysis, the sweet clover contains the following composition: water, 6.86 per cent.; protein, 22.55 per cent.; crude fiber, 23.49 per cent.; carbohydrates, 33.61 per cent.; fat, 3.91 per cent.; ash, 10.05 per cent., making its feeding value as a forage crop high. Its value as a fertilizing agent, in gathering nitrogen, can hardly be realized. It has the ability to thrive splendidly on the poorest sandy soil and on dry and badly washed hillsides, where other clovers would never start.

The seed of sweet clover should be sown thinly on old and tired fields, then the stalks will be large and branching, bearing much seed and quickly reseeding the field. The brushy stalks may be cut and placed in the small washes, which they stop by catching the silt and small trash, that would otherwise be washed away and lost.

A description of the sweet-clover roots will show that they are a high-class fer-



Sweet-clover plants. Note the nodules on the roots. These contain the beneficial bacteria

tilizer. Unlike the roots of other leguminous plants, those of sweet clover are somewhat fleshy and not fibrous. During the first year the roots reach far into the ground and draw up from considerable depth an abundance of plant-food, which they store up for the second year's growth. On the death of the plant, at the close of the second year, the fleshy roots decay more rapidly than the fibrous roots, and their nitrogen becomes more readily available for other crops.

Prepares the Land for Alfalfa

We think sweet clover is one of the finest things in use to prepare the land for alfalfa. Sow to sweet clover for one year; break the land, turning under the young growth the second spring about the first of May, and cultivate until ready to seed to alfalfa. The germs of bacteria will increase rapidly, and the soil will be filled so full that the alfalfa-plants will grow right off and make two or more cuttings the first year after sowing in the early fall. As a soiling crop, it is right up to the front. Combined with bluegrass, it makes one of the finest pastures known to stockmen. Unlike alfalfa, it improves by being pastured; yet again, like alfalfa, the stock have to become accustomed to it before they will eat it with a relish. But when once they have learned to eat it, they prefer it to all other grasses.

As a pasture for hogs, the chief difficulty lies in the fact that the hogs want the roots as well as the tops. They eat the grass readily from the first, seeming to like its peculiar flavor, and are also fond of the hay, eating it more readily than that of red clover. One of its many good qualities is that cattle may be fed exclusively on sweet clover and under the conditions most favorable to bloating without any danger from this trouble. The principle which gives it its bitter taste effectively prevents the fermentation that results in bloating.

I believe that every farmer who owns hill land not suitable for alfalfa should give sweet clover a trial. Then, after a few years, when the sweet clover has made good, alfalfa will be the next in order.

J. W. GRIFFIN.

Fighting Cutworms

LAST spring the cutworms played havoc with all sorts of young growing plants in this section. I planted beans twice in my garden and very few plants were left. The third time I planted them I made furrows with the hoe, set the seeds in bunches of five, twelve inches apart, and covered the seeds with dust of three different kinds, with the following results:

One row covered with hard-coal and wood ashes and earth on the top resisted the cutworms fairly well. Crop good.

One row covered with New England mineral fertilizer and earth resisted the cutworms fairly well. Crop good.

One row covered with plain trap-rock dust and earth came up fine; practically no seed missed, and the crop was fine in size and flavor. All three rows had been fertilized with pigeon-manure.

A row of corn and beans on unfertilized sod treated with plenty of trap-rock dust (granite) and sawdust gave me a very fair crop.

LOUIS LONG.

Many look forward for something to do instead of looking around.

If the barns are not tight and warm, and the doors safe, make them so. Don't neglect them. Every day of unprofitable farming helps to seal the farmer's doom by making it easier for him to keep on in "wild farming." The successful dairyman of the present must be a great thinker, and must be prompt to carry out what he learns.

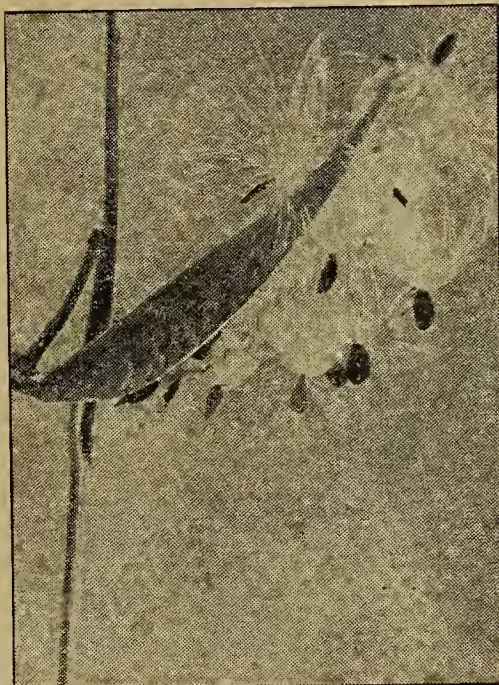
It is easy enough to hold the plow when the furrow turns nicely, the team goes well and there is not a stone anywhere. It is when the plow-point strikes a rock and the handles rap you on the ribs that you feel like saying things. It isn't best, though. Pull back the plow, lift the stone out of the furrow and take it away so that it never will trouble anybody again. Chirk to the horses, and everything will be all right.

Two Kinds of Weeds

BIENNIAL weeds start into growth one season, live through the winter, blossom the second season, produce seed and die. The mullein and the burdock are familiar examples of such weeds. The first year they develop only a rosette of low-lying leaves; the second, they send up their tall flower-stalks.

While biennials are more difficult to destroy than annuals, they are more readily killed than perennials. Perennial weeds start into growth one season, live through the winter, blossom and set seed the second season, and then continue to grow by some vegetative method of reproduction, blossoming and setting seed each year thereafter. A perennial weed commonly sends out underground roots or rootstocks in all directions, as in the case of the Canada thistle, witch-grass and Johnson grass. Sometimes the plant may spread slowly from the growing crown, like the curled dock, or it may spread rapidly by runners, like the cinquefoil and wild strawberry.

These biennial and perennial weeds may be introduced into gardens in precisely the same ways as the annuals. There is the additional danger that the vegetative part



Milkweed pod and seeds. This weed is a common perennial

may be brought in. Thus, a bit of witch-grass rootstock attached to a hoe or spade might easily be carried to a garden and there start a colony of this troublesome weed.

This vegetative method of growth must be studied and the remedial measures planned accordingly.

Long tap-rooted perennials, like the dandelion, are sometimes cut off below the crown with a spud or other sharp instrument. In the case of the dandelion, at least this may do more harm than good, as the root is able to develop several new crowns in place of the one old one.

The most troublesome perennial weeds multiply by means of spreading roots or rootstocks. In such cases special care must be taken not to cut these vegetative parts to pieces, as this merely increases the number of plants. The roots must be dug out, starved or smothered, or so exposed to sun and wind that they will be killed by drying.

C. M. WEED.

Headwork Winners

January 6, 1912

Sanitary Chicken-Roost . . . George Black
A Ventilating System . . . Fred Bailey
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Grow more Dollars on the Farm

by making each acre yield its utmost. The food products of this country are not keeping pace with the increasing population, and the American people will soon have to buy of farmers in foreign countries, unless the American farmers rise to their present great opportunity.

The yield per acre of the average American farm is now much less than on foreign farms. The American farmer can just as well increase his production, and also his profits, for it is chiefly a matter of fertility; and the best part of it is that **the more fertilizer used the easier it is to pay for it.** The extra crops take care of that, only be sure to use the **right fertilizer.**

Wherever you live, we can reach you with the **right fertilizer, the right service, and the right price.** Write today for copy of "Plant Food", a practical hand book on fertility. No advertising in it; sent without cost.

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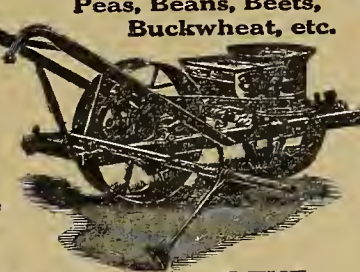
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My 1912 stock of asparagus roots is unexcelled. 6 of the strongest, healthiest and thickest varieties. One and two-year-old roots for sale. We know they will please you. Place your order now. Special prices on large orders. There is big money in growing asparagus.

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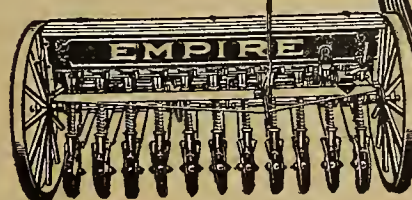
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Farm Notes

Bacteria and Farm Life

Brief Ideas on Agricultural Bacteriology

A FIRST peep at bacteria under a powerful microscope is disappointing. We all know that certain bacteria, germs or microbes (all of these words mean the same thing) are able to produce disease. This fact may lead us to expect to see such creatures as we find sometimes pictured in advertisements of patent medicines, all legs, fangs and feelers. We find nothing of the kind, for all bacteria, no matter how useful or how dangerous, are very simple in shape and appearance. Most of them are tiny straight rods (like a lead-pencil) or spherical (like a marble). A few are in the form of bent rods (like a cork-screw). Instead of being animals as we may have supposed, we find that scientists are agreed that bacteria are plants. True, they are plants of exceedingly simple structure and do not resemble very closely the plants with which we are familiar in the field and garden, but they are plants nevertheless. They have no roots, stems, or leaves, but neither do smuts, molds, mildews or toadstools, and these are all plants. In short, bacteria belong in a group with the forms just mentioned, and are the simplest and smallest of all known plants.

Bacteria are very small, the tiniest of living things. The spherical bacteria would probably average about 1/25000 of an inch



All bacteria are not the same shape

in diameter. More than fifteen thousand billion of them would be required to fill a cubic inch. The rod-shaped bacteria are usually a little larger and about the same diameter.

It is evident that a single bacterium can never do much unaided. Yet we find that a single individual of a certain kind placed in milk free from bacteria, will cause it to sour in a few days or even hours. One single germ of some other kinds gaining

entrance to the blood of an animal may produce a fatal disease within a few days. These germs are able to bring these things to pass because they increase so rapidly in numbers. When there is plenty of food present, some bacteria can grow to their full size and divide to form two individuals in the course of half an hour. At the end of an hour there would be four, at the end of an hour and a half, eight, then sixteen, and so on. Just figure out for yourself how many there would be at the end of two days, and no doubt you will be surprised at the size of the number. It has twenty-eight figures. The motto of bacteria seems to be "In numbers there is strength," and by virtue of the myriads that can be produced in a short time they bring about great changes. Remember, however, that this rapid increase in number can be continued only as long as there is plenty of food and there is no overcrowding. This actually seldom or never occurs in nature.

R. E. BUCHANAN.

EDITOR'S NOTE—Doctor Buchanan will in each issue have something to say about bacteria. It is the purpose to describe and discuss very briefly the more important relationships existing between bacteria and life on the farm. These discussions will be presented in a form as free as practicable from difficult scientific terms, and every effort put forth to make the subject matter easily understood. Such a presentation of the subject may help in clearing up some of the puzzling problems and conditions that confront the farmer and the housewife.

A Stitch in Time

WINTER may be called a time of truce on the farm. In a time of truce, the shrewd commander strengthens his position, arranges his batteries and cleans and repairs the tools upon which he must depend for existence when the truce is over and the battle begins again.

Why not apply the same shrewd tactics to the farm?

Why not see that all harness and machinery, wagons and tools are in first-class condition and ready to go on with the battle when the winter truce is over?

There's almost certain to be some broken straps and chains.

An extra doubletree and some singletrees may save valuable time.

There's probably some missing bolts, others that are almost useless and others that need the wrench.

There's a lot of little things, if we look carefully, that, if attended to now, will save time when time is money.

Let's take the needed stitch in the time of truce, that we may not be forced to take ten stitches while in the midst of the battle.

E. A. WENDT.

An hour of planning will often save a day of labor.

Better to be foolishly optimistic than pessimistically foolish.

Treat every boy as you would have him treat you when he becomes a man.

One Man's Lesson

SOME people go into a venture and think about the conditions afterward. A case happened something along that order, here, beginning a few years back. One of our Nebraska farmers believed he saw a chance to "make out" on raising hogs to sell for breeding purposes, so he went back East and got several high-priced (\$55 to \$250 apiece) shoats and laid out something like \$500 on fixtures. His idea was to sell to his neighbors, and then later work up a mail-order trade. After starting his venture, he was confronted by poor crops. Also the farmers wouldn't pay more than \$2 to \$7 above the market price. Again his sales were light, say 5 per cent. of those raised. This man was paying a 10 per cent. interest on all these first purchases and soon found he wasn't making the money that those were who had only grades. Getting down to the real proposition, we see he should have started with just one pure-bred gilt and be content to make her the foundation of his whole herd. This operator pursued a strict policy of "square deal," but farmers must be educated into paying more for their herd-headers than a few cents above market if a beginner wins out on high-priced hogs.

C. BOLLES.

Good Cheap Paint

TAKE a bushel of well-burned lime, white and unslaked, 20 pounds of Spanish whitening, 17 pounds of rock salt and 12 pounds of brown sugar. Slake the lime, and sift out any coarse lumps, and mix it into a good whitewash with about 40 gallons of water, and then add the other ingredients. Stir the whole together thoroughly. Put on two or three coats with a common brush.

Five dollars' worth ought to make the building look a hundred dollars' worth better. This makes a coat that does not wash off, or easily rub off, and it looks well. It will go far to preserve the wood. It is therefore especially adapted to the outside of the buildings. Three coats are needed on brick and two on wood. If you want to

get a fine cream color, add three pounds of yellow ochre to the above. If you prefer fawn color, add four pounds of umber, one pound of Indian red and one pound of lamp-black. If you want a gray or stone color, add four pounds of raw umber and two pounds of lampblack. This will be more desirable than common whitewash.

Another way is to take freshly burned unslaked lime and reduce it into powder. To one peck or one bushel of this add the same quantity of fine white sand or fine coal-ashes, all these being sifted through a fine sieve. They should then be thoroughly mixed together while dry. Afterward mix them with as much common linseed-oil as will make the whole thin enough to work with a painter's brush. This will make a paint of light-gray stone color, nearly white. To make it fawn or drab, add burnt umber, Indian red and a little black. If dark stone color is desired, add lampblack, or if brown stone is desired, add Spanish brown. All the colors should, of course, be first mixed in oil and then added. This paint is much cheaper than common oil-paint. It is better to apply it in two coats; the first thin, the second thick.

JOHN M. LANG.

Catching Moles

MOLEs are a great pest in the garden and field. To poison them is difficult, and to trap them is slow work. We have tried many ways, and among them is this one: Procure a section of a sapling about four feet long and three inches in diameter, dress the small end down to a conical point, having the cut surface very smooth and round. Find the run, and drive the conical end into the soil some ten or twelve inches below the surface. Do not disturb the soil over the run more than necessary. After withdrawing the stick, cover the run to exclude light. Moles in traveling move rapidly. When it comes to this spot, it plunges headfirst into the hole. The sides being compacted in driving, the mole, head down, has no chance to dig or even back up. He is a prisoner pure and simple. You will find him waiting for you. J. H. HAYNES.

The good old days would not have such a charm if we hadn't forgotten the most of their ills.

Meadow-Land Weeds

AFTER a field has been seeded down a number of years, especially if it receives little in the way of fertilizers, various weeds are likely to come in and crowd out the grass. In general, these weeds start from seed scattered by the wind. They are vigorous plants and soon take possession of any part of the soil in which grass-roots are not abundant.

In many parts of America the ox-eye daisy or white daisy is the worst of these invaders. Too many fields that should be producing crops of good hay are whitened in June by the beautiful blossoms of this meadow pest. This is a perennial that starts readily from the seed which is widely scattered after the blossoms go by. The first season the young plants are small and inconspicuous, but when the flowers appear the second season, the plant is readily seen from a distance. Each plant spreads to form new plants and smothers out the grass beside it.

The coneflower, or yellow daisy, is another familiar meadow pest. It generally accompanies or follows the invasion of the white daisy and is easier to subdue than that plant. The pulling and burning of the blossom-bearing roots as soon as they appear will keep the field free.

More to be dreaded than either of these, however, is the orange hawkweed, which is now troublesome in New England, New York and other regions and seems to be spreading rapidly. It is very distinctive on account of the color of its flowers, a brilliant

orange hue very different from the color of any other of our common weeds. These flowers are borne in small clusters at the top of a hairy flower-stalk about a foot high. At the base of the stalk there is a rosette of hairy leaves, these leaves being about four inches long.

The orange hawkweed commonly starts in a new field from wind-blown seed. After one or more plants are well established, they send out runners and rootstocks in all directions, crowding out the grasses or other plants about them. In this way small patches of the hawkweed become so thoroughly estab-



Yellow Daisy



Orange Hawkweed

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The purpose of this bureau is to furnish farmers with information on better farming. If you have any worthy questions concerning soils, crops, pests, fertilizers, etc., write to the I H C Bureau and learn what our experts and others have found out concerning those subjects.

My Farewell Car

By R. E. Olds, Designer

Reo the Fifth—the car I now bring out—is regarded by me as pretty close to finality. Embodied here are the final results of my 25 years of experience. I do not believe that a car materially better will ever be built. In any event, this car marks my limit. So I've called it My Farewell Car.

My 24th Model

This is the twenty-fourth model which I have created in the past 25 years.

They have run from one to six cylinders—from 6 to 60 horsepower.

From the primitive cars of the early days to the most luxurious modern machines.

I have run the whole gamut of automobile experience. I have learned the right and the wrong from tens of thousands of users.

In this Farewell Car, I adopt the size which has come to be standard—the 30 to 35 horsepower, four-cylinder car.

Where It Excels

The chiefest point where this car excels is in excess of care and caution.

The best I have learned in 25 years is the folly of taking chances.

In every steel part the alloy that I use is the best that has been discovered. And all my steel is analyzed to know that it meets my formula.

I test my gears with a crushing machine—not a hammer. I

know to exactness what each gear will stand.

I put the magneto to a radical test. The carburetor is doubly heated, for low-grade gasoline.

I use nickel steel axles with Timken roller bearings.

So in every part. The best that any man knows for every part has been adopted here. The margin of safety is always extreme.

I regard it impossible, at any price, to build a car any better.

Center Control, Finish, etc.

Reo the Fifth has a center, cane-handle control. It is our invention, our exclusive feature.

Gear shifting is done by a very slight motion, in one of four directions.

There are no levers, either side or center. Both of the brakes operate by foot pedals. So the driver climbs out on either side as easily as you climb from the tonneau.

The body finish consists of 17 coats. The upholstering is deep, and of hair-filled genuine leather.

The lamps are enameled, as per the latest vogue. Even the engine is nickel trimmed.

I have learned by experience that people like stunning appearance.

The wheel base is long—the tonneau is roomy—the wheels are large—the car is over-tired. Every part of the car—of the chassis and the body—is better than you will think necessary. No price could buy anything better.

Price, \$1,055

This car—my finest creation—has been priced for the present at \$1,055.

This final and radical paring of cost is considered by most men as my greatest achievement.

It has required years of preparation. It has compelled the invention of much automatic machinery. It necessitates making every part in our factory, so no profits go to parts makers.

It requires enormous production, small overhead expense, small selling expense, small profit. It means a standardized car for years to come, with no changes in tools and machinery.

In addition to that, by making only one chassis we are cutting off nearly \$200 per car.

Thus Reo the Fifth gives far more for the money than any other car in existence. It gives twice as much as some.

But this price is not fixed. We shall keep it this low just as long as we can. If materials advance even slightly the price must also advance. No price can be fixed for six months ahead without leaving big margin, and we haven't done that. The cost has been pared to the limit.

Catalog Ready

Our new catalog shows the various styles of body. It tells all the materials, gives all specifications. With these facts before you, you can easily compare any other car with this Reo the Fifth.

If you want a new car you should do that. Judge the facts for yourself. Don't pay more than our price for less value. After 25 years spent in this business, here is the best car I can build. And the price is \$1,055. Don't you think you should know that car?

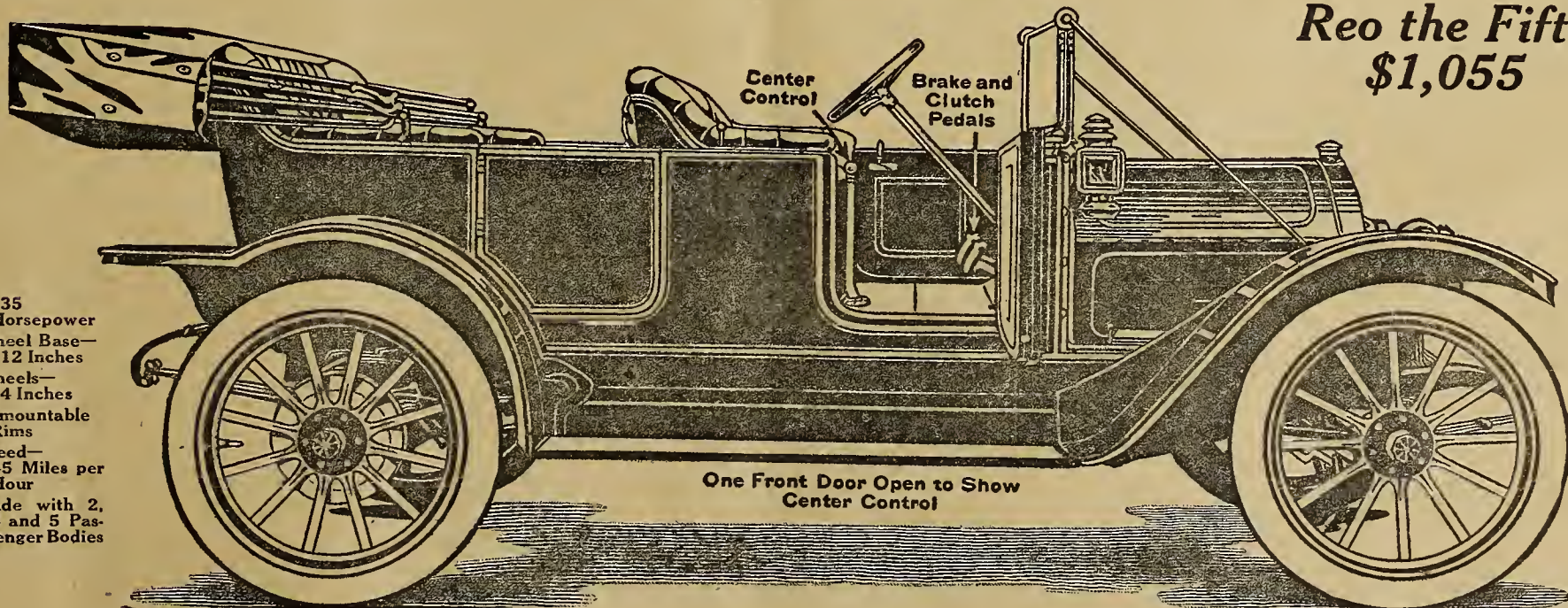
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Canadian Factory, St. Catharines, Ontario

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\$1,055

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Horsepower
Wheel Base—
112 inches
Wheels—
34 inches
Demountable
Rims
Speed—
45 Miles per
Hour
Made with 2,
4 and 5 Pas-
senger Bodies



Top and windshield not included in price. We equip this car with mohair top, side curtains and slip-cover, windshield, gas tank and speedometer—all for \$100 extra. Self-starter, if wanted, \$25.00 extra.



Increased Horse Power
Humor your horses by properly padding their collars and they will repay you with better work. Ventiplex Pads are the kind to use, because they are made of ventilated fabric, which allows a free circulation of air under the collar. This keeps the shoulders dry and cool, preventing galls and sores. You can use your horses every day. Ventiplex Pads wear longer, prove more satisfactory, and cost no more than other kinds. You will be glad you bought one. Most dealers have them, but if yours has not, send us his name and we will forward a sample quickly. Patented Sept 20, 1910. Our folder will interest you. It is free for the asking. What is your address? We also make the famous "Stay-On" Blanket. Burlington Blanket Co., Dept. S6 Burlington, Wis.

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A Drill Seeder, a Hill Seeder, a Double Wheel Hoe and a Single Wheel Hoe are all combined in Iron Age, our No. 6. It drills accurately any thickness desired. Shut-off on handle, brush agitator in hopper. Changeable instantly from Drill to Hill Seeder or reverse. Drops 4 to 24 inches, as desired. Changed to Wheel Hoe in three minutes. Is but one of complete line that fits the needs and purse of every gardener. Can be purchased in simplest form and added to as different attachments are needed. It does perfectly all work after breaking up of garden. You should see this tool. Ask your dealer to show it. Write us for special booklets.

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lished that their roots and crowns fill the surface soil. Such patches are difficult to kill out, but they must be killed out if the meadow is to be saved. Even plowing will not destroy the roots. A heavy dressing of salt over the patches of plants is perhaps the easiest remedy.

Some years ago the Canada thistle was considered one of the worst weeds infesting pastures and meadows, but of late it has attracted less attention. It is still a pest, however, wherever it gets well established, because it spreads by underground roots that send up new plants in all directions. A systematic treatment consists in mowing the thistles in July close to the ground, plowing at once and seeding heavily to millet or Hungarian grass. In September either mow or plow under the crop and seed it to rye. The next season plant corn or some other hoed crop and give such thorough tillage that all the thistle roots that start to grow will be destroyed.

The weeds found in swampy meadows are, of course, different from those of the uplands. When such plants as Spanish needles and bur-marigolds take possession, it is usually a sign that the soil is too wet to grow hay successfully.

The weeds of upland meadows come in chiefly as the grass runs out. They are usually a sign that it is time to rotate the field or at least to plow it up, fertilize and seed down again. So here, as elsewhere, the weeds are really a stimulus to a better agriculture.

C. M. WEED.

Ambition for self-aggrandizement is like the man's horse that had only two faults; it is hard to catch and good for nothing when caught.

Formalin on Feed

"Is it safe to feed grain that has been treated with formalin at the rate of one pound of formalin to twenty-five bushels of grain?" has been asked many times the past year.

Grain treated with formalin at the rate of one pound of formalin to twenty-five bushels of grain will be much less dangerous after standing than immediately after treatment. When so treated, even after standing, it will likely cause impaired digestion in animals. It is probably not advisable to use over one-fourth ration where some of it has to be consumed. Even at its worst, it is probably less dangerous to large, heavy animals than is molded or diseased corn, which is so abundant this year.

A. D. SELBY.

Winter on the Farm

As the Hired Man Sees It

By Berton Braley

THERE is folks that seems to find Winter weather to their mind; Folks that likes the winds that sweep Bedclothes off you when you sleep; Folks that slap their chests an' say, "Sech a brisk an' bracin' day!" But fer me it hain't no charm— Winter on the farm.

I don't like to rise at four
Inter snowdrifts on the floor;
I ain't glad to find my clothes
Full of snow—an' almost froze;
An' I sure don't think it's nice
Washin' with a lump of ice;
Get all chilled an' can't get warm—
Winter on the farm.

Shiverin' an' stiff, I go
Doin' chores at "ten below."
Gee, but it's an awful lark
Milkin' in the inky dark!
Numb an' almost froze to death,
Watchin' of my steamin' breath,
I don't see no special charm—
Winter on the farm.

Breakfast helps a bit—but still
Winter's awful cold an' chill,
An' there ain't much chance to sit
By the stove an' warm a bit;
Now—outdoors there's work to do
Till my lips an' hands is blue,
Till the supper bell's alarm—
Winter on the farm.

Then—more chores, an' when I'm done,
Not a chance fer any fun;
Village road is drifted high
Till I simply can't get by.
So I set around an' then
Pretty soon turn in again.
Am I fond of it? No, MARM!
Winter on the farm.

As to Scented Baits

What is Really the Best Bait to Use?

BAITS are, of course, used to attract attention. The bait that will best attract attention and lure the animal sought to be captured is, therefore, the best bait. It is a well-known and uncontradicted fact that certain animals are fond of certain baits. The mink, for example, is attracted by the musk or the musquash, or muskrat; the fox, by the essence of the skunk, and it is said that the bear is fond of the smell of honey. So the illustrations might be continued without end. No doubt, then, scented bait plays an important part in the capture of fur-bearing animals.

Scented baits are of two kinds, namely: (1) natural and (2) artificial.

In the first class may properly be considered, among others, such baits as the musquash, or muskrat, for mink and the carcass even of the skunk for skunk.

In the second class is found the manufactured or specially prepared scents or baits.

Of the natural scented bait there is, of course, no question.

A proper artificial bait or scent rightly made is no doubt a good bait. I have frequently used for mink a scent prepared from the decomposition of shiners and believe the preparation to be an excellent bait. A specially prepared bait, and used with good effect, is also frequently employed in the capture of the fox and the otter.

In fact, about a year ago many foxes were trapped in our vicinity of Massachusetts, as was generally believed, by the aid of artificial scented bait. Fox-hunters, of course, naturally objected to this procedure, as it diminished their chances of scoring and also resulted in some few dogs being trapped. To obviate this situation, legislation was proposed. In order not to have the proposed legislation appear specially as fox-hunters' legislation, it was made general in form and prohibited the use of "scent, so called, or scented bait." The proposed legislation, in due time, became law, and is now found in Chapter 215 of the Acts of 1911, which is as follows:

An Act to Forbid Trapping with Scented Bait

Every person who shall set, place or locate a trap or snare of any kind with scent, so called, or scented bait upon or near the premises of another, without the consent of the owner or occupant of said premises, shall, upon conviction, be punished for each offense by a fine of not more than fifty dollars, or by imprisonment for not more than thirty days, or by both such fine and imprisonment.

While the aim of the statute is to stop the use of artificial scented bait, and such was clearly the intent of the legislature in its enactment, it will be observed nevertheless that it makes no clear distinction as to the kinds of scented baits—natural or artificial. The carcass of a skunk used as a bait for a deadfall might well be a "scented bait," as I have known such baits sometimes to be somewhat "scented." It is, however, probable that the statute will be so construed by the courts as to effectuate the real intention of the legislature.

It seems that to set a trap "with scent, so called, or scented bait," except upon certain conditions, is now a criminal offense in Massachusetts. Apparently, the legislature of Massachusetts must have been convinced that scented baits were of some importance.

While I did not see Mr. Allyn's article in the issue of November 11, 1911, and cannot, therefore, comment thereon, the articles I have read impressed me favorably. Especially do I endorse his remarks concerning baits in your issue of October 25, 1911.

H. K. DAVIDSON, JR.

Some Trapping Methods

THE muskrat is an easy fellow to catch and he is easy to skin. Boys on the farm can make a good lot of their spending-money before and after school by trapping. Muskrats are caught in No. 1 steel traps. To locate muskrats, go along a creek, ditch, or pond, and look for the slides, and set your trap at the bottom of these slides. Always set the trap under water, so when you catch him he will go in the water, dive under and stay there until he drowns. Also hunt the muskrat's den, and set traps at or near the mouth of the den, so when he comes out you will catch him.

To skin a muskrat, cut down the hind legs and around them, and then take the skin off whole. Be as careful as possible not to cut a hole in the skin, as it damages the pelt. After you have the skin taken off, get a thin board, say three eighths of an inch thick and about six inches wide, and taper it at the end. Put the skin over the board, and stretch tight, and nail.

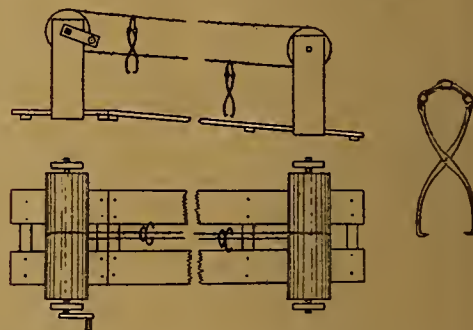
The skunk is a cunning animal, but easy to catch if you know how. He is found under old buildings, old straw-stacks and on hilly ground. When you find his den, put a No. 1 or No. 2 at the mouth of the den, and cover lightly with leaves or grass. Make things look as natural as you can, so he won't suspect danger. For bait use a piece of meat, but never use the baits made by companies and sold on the markets. Such baits are no good whatever. Use whatever nature provides, if possible. Skin, and stretch the same as a muskrat, only use a larger board, and cut up the tail; be sure to take all the bone out.

Weasel and mink are the hardest of all fur-bearing animals to catch. They are rather timid of human beings and of traps. The mink and the weasel are cousins, and are both trapped by the same methods. To locate mink runways, go along frequented ponds and you will find their runways along steep banks and under trees and shrubs and bushes which grow close to the water's edge. Mink make their runways along such places, so as not to attract anyone's attention. Never set your trap in the entrance of the den. That always frightens him away. Set the trap a little way from the den or in the runways, and cover it with grass or leaves, and bait it with a piece of meat or a fish. If you set your trap with care, you will be sure to catch him. Use a No. 1½ or No. 2 trap. Skin, and stretch the same as a skunk, but use a board a little longer and three or four inches wide. To trap a weasel, trap the same as a mink, only use a smaller trap. Size No. 0 is the best.

VERN CAPEN.

Take Care of the Ice

HERE is a plan which I have used for several years in putting up ice. My ice-house stands about fifty yards from the creek, and some fifteen or sixteen feet



higher. When I am ready to put up ice, I make a track from the water to the house for the ice to slide on, of two boards about eight or ten inches apart. I had the blacksmith make me four ice-hooks at twenty cents each, like those shown in the sketch. They were not so round as the common ice-hook, and so they would not drag on the ground.

I then took a log about one foot in diameter and three feet long, bored a two-inch hole in each end, and drove wooden pins in the holes, leaving four inches for axle on end of log. I took two-by-eight pieces two feet eight inches long, bored a two-inch hole in them six inches from the end, put the log between them, and braced it solid in the ground and ice. I made another set at the other end of the track (the house) just the same, only I left one pin eight inches long. This pin was cut square on the end. A square hole was then made in a one-by-four-inch board to fit the square on pin, bored hole in small block four inches long, drove spike through it and the four-inch board, and had a good crank to turn windlass with. I took enough barbed wire to make an end-

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You can use it for lining the garage, the carriage house or the laundry, for turning the bare attic into an attractive bed room or nursery, for making wardrobes and closets and partitions, in a hundred and one ways all over the house and farm. Finest thing you ever saw for the chicken house—warm, clean, sanitary.

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less chain or cable (barbs won't let it slip on log, a smooth wire will), and fastened on ice-hooks at even distances apart. Two of us cut for a time, then one of us would go to the house and turn the crank, the other hook on the ice, and it would go up with no lifting, hauling, or breaking the ice. Two men can put up as much ice as six or eight when they have to load it in a wagon or on a sled. Of course, everyone cannot have their ice-house close enough to the creek or pond for this method, but many can. This method would pull the ice easily for two or three times as far as I have stated.

J. S. SMITH.

The Card Index

MANY will laugh at me when I say that the card index may be made the most useful article on the farm. It is invaluable for filing little items of value which may be copied onto a card. Many papers have a veterinary department edited by a reliable man. Symptoms and cures can be copied on a card and properly filed. Thus if an animal becomes sick, the farmer can find a cure for the particular ailment at a minute's notice. The animal does not die while he is waiting for a distant veterinarian to arrive or while he is looking hopelessly through a promiscuous heap of papers for the desired cure. They say that trouble only comes when we are unprepared. Be prepared and ward off bad luck. The value of FARM AND FIRESIDE may be greatly augmented by the use of the card index. Every issue contains articles which the farmer would like to see often. The name of the article is filed with the name and date of the magazine. Each magazine is kept in a neat pile by itself and arranged in order, according to date of issue. Thus it takes but a minute's time to find the article. The apt man will find other uses for the card index. A good cabinet can be bought for \$1.50 or less.

C. J. GRIFFING.

Between the Plow-Handles

ALL any man who doubts the value of deep plowing has to do to get new light on the question is to go out into the meadows and look at one of the many woodchuck-holes that we have everywhere in these days. There the grass grows rank and luxuriant. Its color is of a deeper green than can be found anywhere else. The stalks are larger and show more signs of thrift than those which stand out in the open. The Good Book tells us to go to the ant for lessons in industry. May we not add that the woodchuck can give us some desirable pointers on plowing?

I am firmly convinced that one reason why our farm lands do not stand the dry weather better in late years is that we have not sent the plowshare down as deeply as we should. Just below the line touched by the plow-point lies a hard, almost impervious floor, if we may so term it, which stops the water in its downward course, no matter how heavy may be our storms. A few days of sunshine and this is all evaporated and all vegetation above must suffer.

If I have heard it said once, I have a thousand times, "Our land does not stand drought as it used to. Rains do not seem to do the good they did once. If they are all soaked full, in a short time the fields are as dry as ever." And it is true in the majority of cases. The soil quickly dries out and our crops begin to show the need of rain.

But it will surely be urged by every practical farmer that it is no small work to get through this crust which stops the course of the water downward. Few of us have teams strong enough to pull a plow which will break this hard earth up and bring it to the surface. And there is force in this statement. It costs to put on horses enough to draw a subsoil plow through such a firm bed of earth. And yet, it does seem to me that we would reap an advantage in the better crops we would get which would more than compensate for the extra expense and the harder work.

But where this does not seem practicable we may drop the share down a little bit every time we plow a certain field, until after a series of years we will have accomplished the desired result. For a good many years I have sounded in the ears of the boys on our own farm the exhortation to plow a little deeper. If there is anything that looks good to me, it is a piece of land that has good deep furrows. Especially is this true of old land. For corn and other green-sward crops it is all right to plow rather shallow; but when it comes to old land, old Ben Franklin's injunction is a good one: "Plow deep, while sluggards sleep."

In this country it seems as if we must more and more face the problem of the drought. Some find the reason for this in the loss of our forests, and perhaps this does have something to do with it; but, whatever the cause, we must somehow find a way to deal with the difficulty. Planting trees will help after a while; just now we must have recourse to some more immediate remedy. Deep plowing meets the requirement. What we need is to increase the capacity of our soil to take in and hold water. The more loose earth we have under our crops, the more moisture there will be for them to feed on.

If we cannot get more than half an inch a year of the cold, sour earth broken up and brought within reach of the plant life above, we are just that much ahead. A little more force on the beam every time we plow will do it.

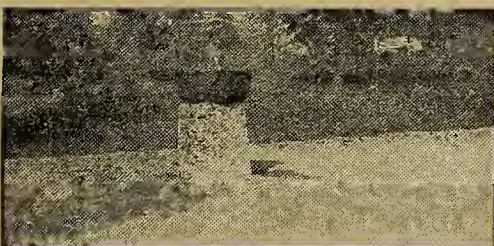
Still another advantage of deep plowing is that it makes the texture of the soil permanently better. On many of our farms we have pretty nearly exhausted the natural fertility of the soil by a process of constant cropping without due recompense of reward in the way of barn-yard or other manures. It is worth while to get some of the new soil up to the top, or at least part way up, so that the roots of the corn, wheat and grass may get hold of it.

One more good will come from this thorough method of plowing, and that is that we can work our land earlier in the spring. On many kinds of soil the water stands long in the early part of the year; it cannot get away, being held by the hard layer of earth a foot or so beneath the surface. When we penetrate this crust, we give the water a chance to drain off, permitting us to harrow and sow considerably earlier than we could otherwise.

Surface draining will help to carry off a good deal of the surplus water in spring; but is not the better way to let this down through the earth, there to be held in reserve against the day of drought which seems so sure to come in these days? Naturally water finds its way to the surface in the form of a moisture we cannot see, attracted through the particles of the earth in nature's mysterious way. If the amount of porous earth which can be thus penetrated is small, it stands to reason that in a little while the heat will have drawn it all beyond the reach of the plant-roots and death must ensue if rain does not speedily come.

As our rainfall becomes lighter, we surely need to plow deeper.

E. L. VINCENT.



An old iron kettle on a concrete base, with flowing water from a hillside spring, makes an excellent horse drinking fountain at a country crossroads

When you get in a hole, you can't climb out on a string of oaths.

It is good to feel good, better to be good and best to be good for something.

A Neighborhood Club

And the Work It is Accomplishing in a Pennsylvania City

READING, Pennsylvania, has a neighborhood club for young and old which plays upon more strings for the public good than any other in the country. It has its physical, social, athletic, patriotic, industrial and moral schemes all in one. It starts the boys along right lines, keeps the pace when they are young men and does as much for the fathers as for any of them. It has been evolving for fourteen years and now, with its club-house all its own, is likely to be a permanent institution.

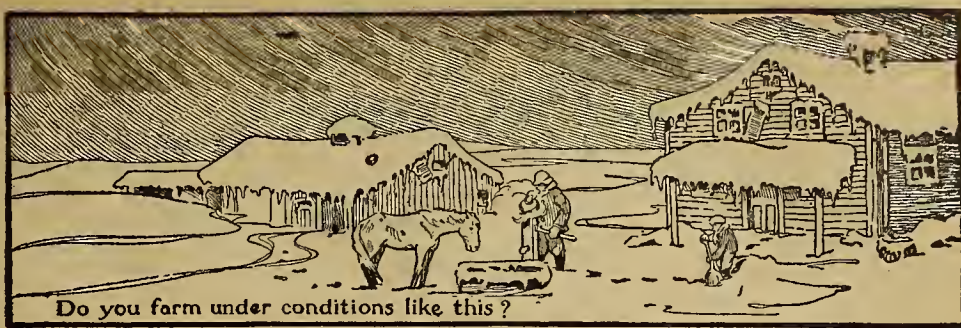
In the Fathers' Club there are eighty men of the neighborhood who are paying their dues and attending to their duties.

It is distinctly a workingman's neighborhood, a community such as would not otherwise have such a group of men with their small boys and large boys in the same club-house with themselves.

The fathers established the playground for their boys, did nearly every stroke of work with their own hands. They made the bins for sand for little ones, put up all the apparatus, and divided among themselves the supervision of the grounds. There is no danger of the demolishing of apparatus when eighty men of the neighborhood have made it, watch and supervise it.

Best of all, perhaps, is the notable garden scheme. Six years ago there was an area of several acres of worthless land, untitled and apparently untillable and not located for building purposes. It was a great, neglected, open lot owned by the proprietors of a near-by manufacturing plant. The Fathers' Club, of the Olivet Boys' Club, took this in hand for the good of the neighborhood. These men put it in shape, had city water brought to it, plotted it into 252 lots, 20 by 30 feet, with walks approaching every lot.

These lots they rent to men, old and young, in the neighborhood for fifty cents a year per lot. There are smaller lots, 5 by 10 feet, which they rent to smaller boys for five cents a year. Every father rents a lot and as a club they take exclusive care of the plant, watch it, protect it and assist whenever and wherever needed. One of them, working in an engineer's office, surveyed it and made blue-prints for the convenience of locating lots, renting and keeping accounts. They keep expert accounts of all transactions. Every tenant reports precisely what



Do you farm under conditions like this?

Farming in the Sun-kissed San Joaquin Valley, California, is a business that makes profit twelve months in the year

Are you content to work hard for half a year, even if crops are good, and use your profit in keeping warm the rest of the time?

Is it good business to throw away half of the working year, when every day should pay its own way and leave you a profit? I think you will agree that it is not. Not when you can get a start in California.

There you have a wide choice of crops, and every one of them is a money-getter.

Alfalfa always in demand and as sure as sunshine.

Grapes produce normal yields four years in five, and always make enough to show a bigger return than the best wheatfield you ever had.

Peaches are equally certain.

Apricots make a crop three years in four, and the profit is such that an off year now and then doesn't matter.

Oranges in the foot-hills bring enormous returns and a failure does not occur once in a decade.

But vineyard and orchard take from three to five years to develop, while alfalfa makes some crop the first year, and thereafter it yields a steady income of from \$40 to \$100 an acre net. You are certain of getting the first, and the latter figure easily may be reached by reasonable attention to marketing.

You do not have to provide expensive shelter for stock. Forage grows all the time. Net returns on cows, pigs, chickens and bees are almost double, too.

I want to tell you about California, where to-day the farmers are in the field plowing, planting, cultivating, irrigating or harvesting.

There is plenty to do, and every day you can get something from the place that will bring real money.

It will cost you just 2 cents to investigate—ask for the new San Joaquin Valley book—read it, and then write again, asking any questions that may occur to you.

Mr. C. L. Seagraves, General Colonization Agent, A. T. & S. F. Ry.
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Please send me your new San Joaquin Valley book, free.

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Address.....

The Santa Fe has no land to sell. It must get its profit by handling the produce of successful farmers, and it pays me a salary to do all that I can to direct the homeseeker to the place where he will most certainly succeed.

I want to be of service to you.

May I?



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MADE OF TOUGH SPRINGY STEEL

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Because it is most productive.

Here's proof. Recently a Kansas Farm sold for \$150 an acre. That farm was fenced with wire fence from end to end. Stock was rotated from field to field. Result was—stock supported economically and soil kept rich with ensuing large yield—cows made the manure, manure made the corn—but it was the fencing that made it possible to successfully alternate pasture and corn fields. Moral: It pays to fence.

ELLWOOD FENCE is elastic, tough and springy. Horizontal wires twisted into steel cables with the diamond mesh or stay wires interwoven in triangle form like a bridge truss—the strongest form of construction known. Thoroughly galvanized, inspected and guaranteed.

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He buys in large quantities and gets lowest carload freight rates and gives you the benefit. You will get from him the most for your money.

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Send for copy of "Ellwood Fence News," also book "How to Make the Farm Pay," profusely illustrated, devoted to the interests of farmers and showing how fence may be employed to enhance the earning power of a farm. Furnished free upon application.

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It is superior and so much more satisfactory than lath and plaster in every way, that it makes an irresistible appeal to the wise home builder.

It is quicker to put on and lasts longer. In thousands of cases its permanent reliability has been put to tests of from five to twelve years. It does not peel off, or sag, like plaster. It will not mar by knocking furniture against it. Durability means economy.

The Poorest Home Builder Can Afford Compo-Board

Most artistic effects can be obtained with Compo-Board in plain, papered, or kalsomined walls, or in a large variety of panel designs.

It is moisture proof and sanitary—impervious to heat and cold—keeps the house warm in winter and cool in summer.

Compo-Board has many other uses about the house and yard—making an extra room in the attic or basement, finishing off summer houses, building partitions and remodeling old houses. Can be nailed over old plaster.

Compo-Board is sold in strips four feet wide and 1 to 18 feet long, and is carried in stock by dealers in nearly every town and city. Write for

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THE Handy Fountain-Pen is the best pen made for usefulness and wearing qualities. It has a fine, well-made, gold-tipped pen. It is made of vulcanite, which is like hard rubber. There is a close-fitting dust-cap to protect the pen-point. For steady use this pen cannot be beaten. It is easily filled and a filler is furnished with each pen. The special feature of the Handy Pen is its free-flowing ink, requiring no shaking.

You will be delighted to have so fine a fountain-pen. You will have use for it many times a day.

It is the most convenient pen that anyone could have. This one is guaranteed to write well.

Our Offer We will send you this wonderful fountain-pen by return mail if you will send us only six eight-month subscriptions to Farm and Fireside at 25 cents each. Tell your friends that this is a special bargain offer. You can easily get them in a few minutes. Send the subscriptions to

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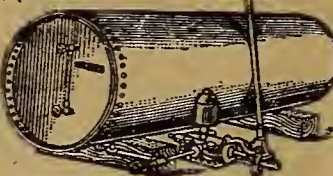
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The
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Md.



he harvests from week to week and the market prices so that the "fathers" have a record of what this garden scheme means to the community. Of course, it does better year by year, but in the six years, taking every year into account, these lots have yielded the families of the neighborhood more than \$8,000 worth of vegetables. No lot is more than 20 by 30 feet, no one pays more than fifty cents rent, and they are all workmen's families.

Many of these fathers have become expert advisers of those less experienced, as to the kind of crops to raise, variety of seeds to get, when and how to plant and care for the crops. I have never seen better neighborly helpfulness or a better influence upon the community.

The man behind all this is William McCormick, editor and publisher of a daily paper, who has for fourteen years found this his highest joy. He is a graduate of Yale University, about twenty-five years ago, who believes that he owes something to his fellow men by way of inspiration to self-help.

A. E. WINSHIP.

Mail-Box Moves

A MASSACHUSETTS reader is scheming for a trolley to run from the mail-box to the house, and seeks some ideas.

The possibility of having a mail-box conveyed from the house to the point where the mail is delivered is a new idea, but it seems entirely practicable, and I think could be arranged in the following way: With a strong wire stretched tightly between the two points, the mail-box could be enclosed in a light frame with a crosspiece sufficiently far above the box to allow of the lid opening, and into this crosspiece two, well-constructed pulleys could be fastened securely.

Then by placing the wire through the pulleys and elevating and lowering the end of the wire at the house the mail-box would move by gravity between the two points. It would doubtless be necessary to build some kind of a scaffold and have the wire fastened to a stick that could be worked up and down at the scaffold and still keep the wire taut. I have used such a device. B. F. W. T.

A good wife is a great blessing to any man; a mean one is better than lots of men deserve.

Is This Fierce Enough?

DEAR EDITOR—

Can't you say something really fierce to that class of barbarians who practice banking their houses and filling cellar-windows with stable manure in the fall, and let the eaves from the house filter through it, carrying the "juice" into the ground back of the cellar wall and eventually fouling the cellar?

If this was in India where followers of the Parsee religion use cow-urine as an antiseptic about their houses, it would not seem so bad, but here in the glorious U. S., oh, my!

F. V. B.

Cement Anchor-Post Jacket

SO MANY farmers use the acetylene-lighting plant in their homes that hundred-pound carbide cans may be secured in almost any community. Three of these sheet-iron cans made a capital molding-jacket for making cement anchor-posts. Being twenty-inches in length and one foot in diameter, a sufficiently heavy post in caliber is secured, and three can-lengths just makes a five-foot post, a sufficient height. The ends of cans are removed and the cylinder cut open down one side. Ears fastened on either side of the opening holds the cylinder intact for filling and forming the post.

When the foundation has been filled to the surface and the reinforcing irons are imbedded, a can section is placed and filled, another and a third section added, and the work is completed.

Slots are left in the open side of the cylinders and, as they are filled with soft cement, heavy wire loops are inserted for fastening up the woven fence.

When the cement is sufficiently set, the jacket sections are unlatched and removed. One neighbor uses wire hoops to hold jackets together and cuts the light wire off with pliers.

Posts made in this manner are really ornamental, as the several beads upon the cans form bradded rings about the posts, breaking up the plainness of a smooth molding-jacket.

Many here have secured cracked or otherwise useless large drain or sewer tiles for this purpose, breaking the tiles away when the cement is set. However, cans may be used over and over again. GEO. W. BROWN.

Why Not a Good One?

THE question of securing a good hay-rack, one that can be easily removed and at the same time is large, seems to be a very important one. It is under our Canadian conditions, at least. Many may be interested.

Fig. 1 represents the bottom part of the rack that we use. The rack itself can be removed, and this bottom part used to haul any-

thing, like manure, stone, sand or lumber. The rack can be made any size, but we use eight-by-sixteen-foot sides, three and one-fourth or four feet high, that size being best.

Fig. 2 shows the rack that fits on the bottom. This rack is held by two bolts, one in each end. These bolts fit over the end crosspiece of the rack, as shown in Fig. 3.

Fig. 4 is the suggested device for unloading the rack. It can be unloaded by one man in this way. Two

posts and the necessary crosspieces to the side of a building are shown in the sketch. The rack can be slipped

onto these crosspieces easily. Of course, necessary strength of lumber must be used.

In every sense of the word, this rack is a handy one for one man. One man can load hay, grain or straw alone by piling it in, then tramping for a good load. The front end of the bottom can be made six inches narrower than will fit between the rack, in order to allow more room to cramp the wagon.

V. L. SWARTZ.

Just a Run-Down Farm

THE story of the run-down farm, almost entirely worthless and dilapidated from misuse and abuse, is not at all uncommon in the more hilly or sloping parts of Ohio and similarly constituted states. Practically each neighborhood has a farm of this sort. Just as there is a reason why a certain farm is productive, so is there a reason why one is unproductive.

This soil deterioration is largely due to our present system of tenantry. Likewise, too extensive farming is placing soils at a disadvantage; that is, the farms are nearly all too large to tend properly and cultivate scientifically. The third deteriorating factor is the natural outgrowth of the two other named causes. It is found in shallow plowing and continuous cropping. Some of the lesser causes which come under this head are of common observance, such as pasturing too close and lack of legumes and other grasses, which do a great deal toward holding the soil and preventing "washing."

The present tenantry system is the result of a too few men owning the land. It manifests itself somewhat like this: A tenant rents a farm and takes possession. He does not do a lick more work than is absolutely necessary to get along. He plows shallow, around grubs and stumps and stones, because it is the easier way. He has a garden, a

This Picture
In 14 Colors,
To Hang
In Your
Home



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Do You Expect To See The Day When These Wonderful Dan Patch Records Will Be Equalled?

Dan Patch 1:55

1 Mile in	1:55
1 Mile in	1:55½
2 Miles in	1:56
14 Miles Averaging	1:56½
30 Miles Averaging	1:57½
45 Miles Averaging	1:58
73 Miles Averaging	1:59½
120 Miles Averaging	2:02½

Dan Has Broken World Records 14 Times. Dan is also Leading 2:10 Sire of the World for his age. Sire of "Dazzle Patch" the Greatest Speed Marvel of the World's History, which paced a half mile in fifty-nine seconds, and one-eighth of a mile in thirteen seconds, a 1:44 Clip, when only 28 months old, in 1911. Also Pearl Patch 4 year trial 2:04. Some of Dan's Cels will be Champion Trotters as well as Pacers. Why not Raise or Buy One!

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This Splendid Painting of Dan's Head was made from life and I want to personally assure you that it is as Natural and Lifelike as if Dan stood right before you, in his Present Splendid Physical Condition.

This is an Elegant Picture for hanging in the Finest Home or Office. It is an exact and perfect Color Reproduction of the Finest Painting ever made of the Sensational and World Famous Champion Stallion, Dan Patch 1:55.

I think so much of this painting that I had it reproduced in a Beautiful Stained Art Glass Window in my Country Home. This picture will be a pleasure for you as long as you live because it shows Dan's true expression of Kindness and his lovely Disposition as natural as life. You cannot buy a Picture like this because I Own The Painting and have reserved it exclusively for this use. Would you like the Finest 14 Color, Horse Picture ever published in the world of the Fastest Harness Horse in all Horse History? People are Perfectly Delighted with this Splendid Picture and are constantly writing me, from all parts of the world, that it is the Finest they have ever seen and thousands of them are hanging in fine Homes and Offices. A Splendid, 14 Color Reproduction of Above Painting mailed Absolutely Free, To Farmers or Stockraisers OVER 21 YEARS OF AGE, If You Own Stock and Answer Two Questions. Write Me Today, a Postal Card or Letter and Answer These Two Questions: 1st. How Many Head of Each Kind of Live Stock and Poultry do you own? 2nd. In What Paper did you see my offer? Picture will be mailed free to Stockowners.

ANSWER TWO QUESTIONS FOR THIS SPLENDID PICTURE. I DO NOT BELIEVE YOU WOULD TAKE \$10.00 for the Picture I will send you Free If you could not secure another copy. Write me at once and ANSWER QUESTIONS and the Beautiful Picture is yours FREE. Over Two Million Farmers and Stockowners have written me for a Dan Patch Picture. Address,

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OR, INTERNATIONAL STOCK FOOD CO., Minneapolis

For over 25 years I have been guaranteeing that "International Stock Food" as a Tonic purifies the blood, aids digestion and assimilation so that every animal obtains more nutrition from all grain eaten and produces more nerve force, more strength and endurance. Over Two Million Farmers strongly endorse superior tonic qualities of "International Stock Food" for Horses, Cattle, Sheep, Hogs. It Always Saves Grain.

Dan Patch 1:55 has eaten it Every Day, mixed with his grain, for over Eight Years, just as you eat the medicinal mustard, pepper, salt, etc., mixed with your own food. Minor Heir 1:58½; George Gano 2:02; Lady Maud C 2:00½; and Hedgewood Boy 2:01, have eaten it Every Day for past Two to Four Years and they have all lowered their very low records during this time which is additional, indisputable proof that "International Stock Food" as a Tonic gives more speed and more strength and more endurance because everybody thought these Five Horses had reached their speed limits before I got them. It will also keep your Work Horses fat and sleek and in Extra Strength to do More Farm Work or Heavy Hauling. It Always Saves Grain.

ASK MY DEALER IN YOUR CITY FOR MY STOCK BOOK.

International Stock Food is a high-class, medicinal, vegetable tonic and is equally good for All Kinds of Live Stock. I feed it every day on my "International Stock Food Farm" of 700 acres to my 200 Stallions, Champions, Brood Mares, Colts, Work Horses, etc. You can test 100 lbs. or 500 lbs. at my risk. Over 200,000 Dealers sell it on a Spot Cash Guarantee to refund money if it ever fails to give paying results.

Its Feeding Cost is only "3 FEEDS FOR ONE CENT."

Dan Patch is the Great World Champion of all Champions that have ever lived. He Also Has 49 in Official Speed List.

He has paced more Extremely Fast Miles than all the Combined Miles of all the Pacers and Trotters in the World's History.

I DO NOT BELIEVE YOU WOULD TAKE \$10.00 for the Picture I will send you Free If you could not secure another copy. Write me at once and ANSWER QUESTIONS and the Beautiful Picture is yours FREE. Over Two Million Farmers and Stockowners have written me for a Dan Patch Picture. Address,

truck-patch, pasture for his stock in summer, a place to live himself. So he is satisfied, knowing he can do about as he pleases at the landlord's expense. Of course, it must not be thought that the landlord has not his share of the blame, too. Both the landlord and tenant know from long and bitter experience that one of the greatest damages to land is the "washing" caused by heavy rains. Many tracts of hill land have been almost entirely ruined by a two-hours' downpour. Yet men do not seem to realize the slight damage which would result had the soil been plowed deep. Deep-plowed soil acts like a sponge, holding and absorbing the water.

Here is an example which has come to the writer's personal knowledge: A man bought a so-called run-down farm, quite hilly and steep. The former owner, not being inclined toward work, had seldom plowed and had allowed the grubs and briars to crowd him out of portions of the fields—in fact, figuratively speaking, to crowd him off the farm. You know the result already. The new owner plowed deep and thoroughly. He cleaned out the brier-patches. There were a few stones in the fields, and he removed them as he plowed. He sowed clover. He gave the "worked-to-death" land a rest and sold the farm ten years later for double the purchase price.

What we want is a tenantry system which will cause a change in the methods, rather than a change of farms. F. W. PABST.

Farmers' Rope-Machine

TAKE a board (A) one by seven inches, bore three holes three-sixteenths inches in diameter, as shown; then make three cranks (B) from real heavy wire; then take a piece of sheet iron (C), and punch holes



same distance apart as in board (A), attach a handle as shown in D; then take another board one by six inches, cut heads off seven nails, and insert them as shown in E. Hardwood pin (F) is used for making loop end on halter ropes.

The lower sketch shows machine in operation.

This device will make heavy and even rope. It requires but two men to do the



work. It is quicker and easier strung than other methods, and also makes a reinforced end on rope which will not unravel.

LOUIS PONSNESS.

Apoplexy in Winter-Fed Lambs

FOR some years past the feeders of winter lambs in New York have been troubled with a disease resembling apoplexy in the human family. The disease seems to appear suddenly and do its work quickly. It attacks the best and apparently the healthiest lambs, entirely passing by the poorer and seemingly weaker lambs.

Two theories have been put forward by the feeders concerning the cause of this disease: (1) that it is caused by overfeeding and (2) that it is caused by feeding too much protein in the ration; that is, feeding a ration with too narrow a nutritive ratio. At the request of the feeders around Batavia, New York, the Cornell University Experiment Station conducted a cooperative experiment with a car-load of western feeding lambs at the farm of C. E. Shepard, at Batavia, New York, in 1909-10, and with a car-load at the experiment station at Ithaca in 1910-11. Both years the lambs carried more "Down" blood than anything else, although some evidence of fine-wool blood was shown. There were very few white faces among them. Both years the general plan of the experiment was to divide the lambs into uniform flocks and feed them rations rich in protein and those rich in carbohydrates. In the second year's experiment, the effect of silage was studied on both of these rations. It was planned to keep the pens so full that only one feeding-hole in the feeding-rack would be provided for one lamb. In fact, where the lambs reached the last period of fattening, it was necessary for the attendant to get into the pen and separate the lambs, so that the last two or three could have a place to eat.

Throughout each year's investigation there was no evidence to show that any lamb died from being fed on a high protein ration. A small number were lost in the cooperative experiment at the farm of Mr. Shepard. These lambs lost were the best lambs and only when each lamb had opportunity to eat more than his share.

Therefore, it seems that the conclusion is warranted that there is more danger from overeating than from eating too much protein. Feeders are cautioned (1) to provide only sufficient rack space so that each lamb has one feeding-hole, (2) to spread the grain

evenly in the racks, (3) to see to it very carefully that no pen is fed so highly as to drive the lambs "off feed," because the conditions then are such that with a few lambs in a pen eating daintily or not at all the conditions for that pen are exactly as if there were excess rack room. Then the more vigorous lambs can gorge themselves, and that condition is apparently the one condition which causes the greatest loss.

A ration having five times as much carbohydrates as protein seems to give the best gains. The greatest profit is realized if the lamb can be marketed in 90 to 120 days at a weight of 80-85 pounds. Silage in a ration like the above gave the best results of all rations. This ration at the experiment station gave the largest gains at the lowest cost per pound of gain.

In conclusion it may be said that the care in management and feeding seems to be much more important than the nutritive ratio of the ration, and that with proper watchfulness the loss from this disease can be cut to a very small percentage.

E. S. SAVAGE.

Killing Three Birds with the Same Straw

ALVIN A. EASTMAN, the cobbler-farmer of Dexter, Maine, who gets a good living and builds up a bank-account on two and one-half acres of land planted to a variety of small fruits and berries, has a unique way of fertilizing the soil and weeds at the same time.

Dexter is in the cold belt of the Pine Tree State, and all berries, fruits and other sensitive plants need protection during the long winter. The soil also needs abundance of potash. With intensified farming such as he does, especially with a small area in each crop, it is impossible to use machinery for weeding.

Mr. Eastman uses straw in large quantities for the protection of trees, shrubs and vines. This rots during the long winter under snow and through rains, and furnishes all the potash needed by the soil.

Thus two birds are killed with one administration of straw, but there is not the end.

The warmth of the straw starts all the weeds and grasses very early and Mr. Eastman waits till the fresh young weeds show their heads through the straw, then he uses the fork in under the straw, lifts it above the weeds and drops it back upon them, and they are dead beyond resurrection that year.

A. E. WINSHIP.

Electricity on the Farm

[CONTINUED FROM PAGE 5]

to 75 cords of stove-wood from hard oak in ten hours. Six horse-power saws all the wood four men can pile in cords. Twelve horse-power will drive a 50-inch circular saw, sawing 4,000 feet of oak or 5,000 feet of poplar in a day. Ten horse-power will run a 16-inch ensilage cutter and blower, and elevate the ensilage into a silo 30 feet high at the rate of 7 tons per hour.

One horse-power will pump water from a well of ordinary depth in sufficient quantity to supply an ordinary farmhouse and all the buildings with water for all the ordinary uses.

Where perishable products are handled, such as milk, butter, eggs, cheese and small fruit, a refrigerating plant and cold storage is absolutely necessary. Low temperatures are easily obtained by the use of motor-driven ammonia-gas refrigerating plants. These plants are now being made in sizes small enough for domestic use and work

absolutely automatically. When the temperature of the ice-box rises to a certain figure, it starts the motor, and when it drops to the required temperature, the motor stops.

A small motor and pump will automatically maintain a perfect source of water for use in the house and barns and for fire-protection. The motor pumps the water into a raised tank, where is located a float which starts and stops the motor.

Why Not Irrigate This Way?

TO EVENLY irrigate light loamy or sandy soil is a problem that most irrigation farmers must contend with. Of course, there are irrigated areas where the soil is clay and not easily cut away by the water, but generally where irrigation is practised a large part of the soil is of a light character easily washed and cut away. Thereby are not only the plant-roots exposed to the sun, but they are deprived of a root-hold.

To irrigate such land, the most economical method is the use of bordered strips and checks. If a pump is relied upon to furnish the irrigation water, this system is the cheapest way to irrigate any kind of soil.

Erect ridges, usually by plowing, so as to border flat strips of land, so arranged that the water may be discharged into one end of the strip and so that it will flow down to the other end confined to the flat by the ridges that border it.

The ridges should be from thirty to fifty feet apart, depending mainly upon the amount of water and the slope of the land.

Some irrigators manage to throw up their ridges at one plowing by backfurling, but, of course, this method leaves a deep double furrow between the ridges that makes leveling more difficult. The quicker way in the long run is to plow the entire tract as level as possible, and after dragging it with a good drag, plow up the ridges about three or four furrows wide.

When you get the strips as near level as you think necessary, it is well on new land to turn in the water, and if there are any irregularities, they will show up and can be leveled later.

For grain such great care in leveling is hardly necessary, but for alfalfa time spent in leveling means time saved in irrigation later.

Of course, the soil next to the ridges is likely to be soft and easily washed out. To prevent this, small dikes two or three feet long should be hoed up, extending from the ridge out into the flat. This backs up the water and helps spread it to the center of the flat. Some garden or orchard crops are better irrigated by ditch irrigation, but the flat culture as has been here described offers less surface for evaporation and facilitates cultivation. R. LOWDERMILK.

How to Use Rape

ONE summer I cut rape and fed it as a soiling crop to ten pens of ten shoats each. This rape was drilled in rows and had the field exclusively. The shoats made a very profitable growth, and it was a cheap way of supplying green feed to penned-up pigs.

One of our neighbors at Vermillion, South Dakota, used rape in his corn and turned his steers in the stalk-field to get them started for their winter's feeding. That was a success.

Heifers grow and thrive amazingly on it in the fall, and so do the sheep and hogs, as you know, but it is not a success as a feed for the cow that is to be milked and the milk used, for the rape will taint the milk and butter. But it is a great milk-producer

LAME HORSE?

MARK THE SPOT

THAT'S all you need do. Just put a cross where the lameness occurs. We will tell you what the trouble is, entirely free of charge, and we will cure any form of lameness. We send you a \$1000 Warranty Bond to guarantee you against loss—for

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Cures— or Your Money Back in a Jiffy

We Guarantee to Cure Bone or Bog Spavin, Ringbone, Thoroughpin, Curb, Capped Hock, Shoe Boil, Sprung Knee, Lacerated and Ruptured Tendons, Sweeney, and all other forms of lameness affecting a horse. It's a powerful remedy that goes right to the bottom of the trouble and cures the lameness in just a few days and the animal may be worked as usual. Contains nothing that can injure the horse and heals without leaving scar, blemish or loss of hair.

Your druggist will obtain Mack's \$1000 Spavin Remedy for you if you ask him. Price \$3.00 per bottle. If he refuses, remit \$5 to us and we will see that your order is filled without delay.

Let Us Mail You Our Free Book "Horse Sense"

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SEND US THIS HORSE

FORGED DISK BLADES

There is as much difference in the quality of the material used in the blades of disk harrows as there is in pocket knives. Some knives are made to sell at ten cents and others at a dollar. Many disk blades belong to the ten cent pocket knife class, but are worked off on buyers with the rest of the machine at the same price for which the best are sold. Consequently, the farmer cannot be guided by price.

The Cutaway Harrow Co. has built its remarkable reputation largely by the quality of the disks on its tools. It has had a real sincere ambition to give to the farmer the best disk blade he could buy. Their motive for so doing has been as much one of pride as of profit. The latter came because the policy of high quality paid.

Their one object has been constantly in view—the best blade possible. To accomplish that, forging the edges became a part of the process. Now all Cutaway Harrow Co.'s disk blades are forged. If you don't fully realize the advantage of forging, ask your blacksmith why a forged edge is better than any other. He will tell you why no other method is so good. This forged edge feature shows how the Cutaway Harrow Co. is doing the things necessary to produce the best tools. It is an indication of merit throughout every tool they make. Every buyer should demand Cutaway forged disks. They cost no more, and are many times better. If you will write them at 854 Main St., Higganum, Conn., they will send you complete information on the construction of Cutaway machines. It would pay every farmer to give them his ear. Write a post card today.

The edge is forged, not rolled and ground.

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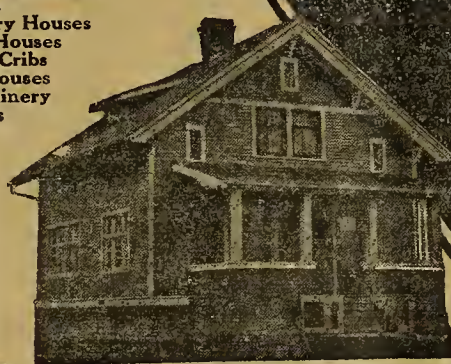
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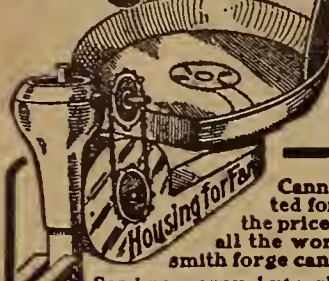
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Cannot be duplicated for many times the price named. Does all the work any blacksmith forge can do.

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NEW PATENTED AUTOMATIC CURRY COMB

Made of best cold rolled steel. Horsemen delighted. Takes just half the time to clean a horse. Keeps the teeth always clean; no clogging with hair and dirt.

A. R. Pett says: "It's a dandy. Sold 14 last night to my neighbors." Easy seller. Big profits. Going fast. Write quick. Free sample to workers. **THOMAS MFG. CO.,** 8746 Wayne St., Dayton, Ohio

and I have seen it used by men who had beef-cows suckling their calves. It is a success there.

It is also used as a hay crop in connection with millet. This is a good hay for sheep and is used quite extensively in certain localities in Minnesota and eastern Dakotas. The mixture of seed is one-half bushel of millet and three pounds of rape per acre, sowed in June and cut when the millet is in the dough stage. The rape and millet will cure well at that time if well cared for. If the field is mowed with a high stubble, a good second growth of rape will come on and make an excellent fall pasture for sheep or anything else.

If a field is sowed exclusively to rape, more feed can be gotten from it if it is in rows, for the sheep and hogs follow down the rows to eat, and trample down much less than though it were sown broadcast.

If we had a grain-drill, we would drill it in with our grain, but as we have a broadcast seeder for our grain, of course the rape is put in broadcast too, although I am quite confident both the grain and rape would do better drilled in. This statement would not hold true in the sowing of rape in the corn-field. Then I think it should be put in broadcast every time, on account of the varying density of the stand of corn in most fields. When a hill is missing, every seed will grow, and sowing it broadcast gives the space of the missing hill a chance to be well seeded, while if the seed were drilled between the rows of corn there could not be this use of the idle land.

PAUL H. BROWN.

Proper Plant-Setting

HERE is a hint that some readers may find of great value in plant-setting. If the ends of the leaves are pinched or broken off, the plant will not wilt even on a hot day after setting out, providing the bed from which it was taken was well watered the night before. The watering allows the plant to absorb all the water it can hold. The broken leaves prevent evaporation from the plant after it is set, as well as giving it a branch pruning to balance the pruning or loss of the roots in transferring.

A plant treated in this manner is ready to start right in and grow.

MRS. A. E. CRICK.

The Potato Shortage

NOT in years has this country had so serious a shortage in potatoes as at present; in many cities and towns they are retailed at present from \$1 to \$1.30 per bushel. Maine, usually a state exporting thousands of bushels of tubers, is herself importing them from Scotland. What will it mean at planting-time? Apparently they will rule very high in price, even prohibitive to many who have heretofore never concerned themselves deeply as to the price of seed at planting-time. My endeavor here will be to show how a maximum yield may be grown from a minimum of seed planted; an economy in the amount planted in no wise decreasing the yield normally that may be expected. Government as well as state tests have proven that larger yields may be expected from cut than from whole tubers planted. Upon the size and not the number merely depends the yield per acre one gets from the potato crop. By planting whole tubers, from four to twelve or more stalks usually appear. Three to five stalks to a hill, while not producing perhaps as many potatoes as eight or more, will, while yielding a smaller quantity, grow them to a much larger size, and eventually the weight and consequently the yield will be more, much more, from the former than from the latter. While the price of seed has never determined my method of planting, in years of plenty or scarcity I plant rather sparingly, preferring good-sized, marketable potatoes to culls and marbles at digging-time. I aim to cut seed from medium to large sized tubers if they are smooth and conform to the type of variety planted and never use small, undesirable potatoes for seed. It don't pay. The seed-pieces are cut as near as can be so that one eye only appears on each portion, and if planted in hills, after the seed has been thoroughly stirred to mix them promiscuously, two such pieces only are planted in each hill, while if in drills, they are dropped approximately sixteen inches apart in the row. Three to four bushels of good tubers properly cut should be enough to plant one acre, from which, on good ground, I have dug three hundred and fifty bushels, and seldom get under two hundred bushels per acre here in Michigan, and this is not considered the potato region of the state. With potatoes so high in price, I feel confident that to those who will give the above a fair trial not only will many dollars be saved to them in the curtailment of the amount of seed planted, but also in the larger net yield and the greater number of marketable potatoes grown.

G. A. RANDALL.

It is easy to be an optimist when the cribs are full of corn.

The tools we borrow are our guests, and we should treat them accordingly.

Tree-Sparrows

A WINTER'S walk is not so lonely when one can meet plenty of tree-sparrows. These little birds twitter and sport about on the cold snow as they gather their food of seeds, and fly from patch to patch, as if they did so for the chance to tuck, for a moment, their toes beneath their feathers, in order to warm them, just as boys do when putting their hands into their pockets.

"Winter chippies" they are called, to designate them from our chipping sparrow that feeds in the garden during the summer. But they are slightly larger than the summer "chippy" and they are marked by a

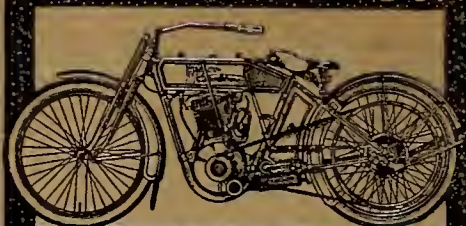


black spot on the center of a grayish breast. Their sparrow back, chestnut crown and whitish wing bars will help identify them.

According to the Biological Survey, the food of these sparrows consists of ninety-eight per cent. of seeds. These are made up of grass-seed, of which the bulk is of wild grasses. The only damage it is claimed that they do is where millet seed is fall sown and left poorly protected. But it is in weedy corn-fields, among the wild grasses and weeds that they, in company with the Juncos, abound, and where they do an inestimable amount of good in destroying the crop of weed-seed.

H. W. WEISGERBER.

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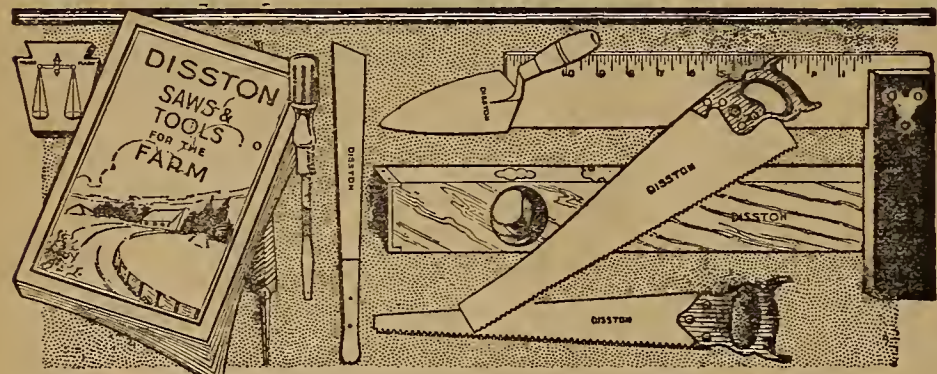
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Poultry-Raising

Does Poultry Pay?

Convenient Methods of Knowing the Returns from the Business

NO ARGUMENT need be advanced to convince the intelligent poultry-keeper that he should keep himself informed as to the exact condition of his business. There can be differences of opinion only as to the methods of securing this information. The details of the system of bookkeeping that ought to be employed depend largely on the extent and nature of the business.

This article is written for the poultry-keeper whose main business is raising poultry and eggs for the market, and not for the fancier. The farmer who keeps a few fowls as a side issue will find no difficulty in modifying his system of farm accounts so as to adapt it to his poultry business. In such cases it is generally sufficient merely to change the titles of accounts and the headings of the special columns in the cash-book.

Objects of Accounting

There is a twofold object in keeping systematic records of business transactions: the historical and the financial. A satisfactory set of books should be a reliable history of the important events on the poultry-farm. From the records it should be easy to furnish any desired information regarding the scope, methods and results of the business. It is impossible to arrive at satisfactory conclusions without basing them on reliable information. Does the enterprise pay? can be answered only from proper accounts. The poultry-keeper who is able to furnish his banker a reliable statement of his financial condition has far better credit than the one who guesses and estimates.

Importance of Uniform Records

Few people realize the importance of uniformity in accounting for statistical purposes. A noted English economist recently visited the United States for the purpose of studying the cost of living and rural economics. His efforts resulted in complete failure, because in the great majority of homes no records were kept at all, and if kept, they were generally useless for statistical purposes for lack of uniformity in classification. The general census requires accurate reports every ten years; accurate statistics are often required by the different states and by industrial organizations. Such statistics are generally worse than worthless, because they are based on nothing but guesses and estimates. It would, therefore, be highly desirable if poultry-keepers could agree upon standard forms of accounting and reports to the various associations. This could, perhaps, best be accomplished through such organizations as the Grange or through the various poultry-keepers' associations. More than three hundred answers to questions recently submitted to poultry-keepers by the Oregon Agricultural College Department of Poultry Husbandry reveal the utter lack of accurate information on this subject. The answers to most questions were, "Don't know; keep no records." And to the question, "What is the average yield per hen per year?" the estimates ranged from twenty to two hundred and fifty.

Cost of Production

As in every other productive enterprise, the cost of producing eggs and poultry is the most important as well as the most difficult problem to solve. It is especially difficult for the poultry-keeper, because both his income and payments are necessarily in small amounts and his "productive forces" are very numerous and difficult to individualize. Recent farm surveys show that the average yield of eggs per hen is not more than six dozen per year in a given county. One hen at the Oregon Experiment Station last year laid nearly twenty-two dozen. Wherein lies the great difference? Granting that the average may never reach twenty-two dozen, we are forced to admit that the difference can be materially reduced by proper management of the flock. The chief causes for the wide difference in production are improper selection of stock and breeding, lack of care, incorrect and insufficient feed. It is the object of cost records to assist in correcting these errors.

It is evidently impracticable to keep account with each individual fowl, except for occasional experimental purposes. The trap net is, perhaps, the best means whereby the eggs laid by individual hens can be determined. For practical purposes the best authorities recommend that a careful record be kept of the expenditures and results in each flock. Egg, feed, labor and expense records are kept nailed to a board in each house, either on separate sheets or all the records combined on the same sheet, as in the illustration. Notes are made of any addition or reduction. The records are assembled each month and a careful analysis is made of the results. The general results

are tabulated at the end of the year on the yearly summary. It is, perhaps, needless to suggest that it is necessary to weigh and measure the feed of each flock if accurate results are desired. Obviously the method suggested will give only the average result for a given period and a given number of fowls, but it is accurate enough for practical purposes.

The question will arise as to the books needed for accurate accounts. Many farmers and poultry-keepers avoid accurate records, because they think the work of keeping them is too irksome. This is not true. In fact, the simple record is the one that is most usable. And the simple record does not really take much time. It easily pays for itself and the time it requires for its keeping.

What Books are Required?

It is by no means necessary to use ruled and printed books and forms. In fact, it is often preferable for a time to rule one's own forms. In so doing important changes will often be made to suit conditions. But, as stated above, it is highly desirable that all industrial accounting be uniform and standardized for statistical purposes. And where the business is of any magnitude it is manifestly inadvisable to spend a dollar's worth of time in preparing a record which costs only a few cents. Many poultry-keepers confine their records to notes on a good-sized calendar with good results, but a more complete system is certainly desirable. A complete system of books would comprise a day-book, which would contain the annual inventories, personal accounts, the annual statements and any other miscellaneous notes and information which would likely be useful in planning future work; the cash-book; the daily and monthly record, and the yearly summary.

In any system of accounts, nothing is more important than an accurate annual inventory. This consists of an enumeration of all the property on hand, usually valued at market prices. It should be tabulated for convenient reference as follows:

Items	Inventories Jan. 1.				
	1910	1911	1912	1913	1914
Good Chicks + Eggs	500	475			
Brood Hens	50	45			
Barnyard Poultry	250	240			
Feed	25.00	34.90			
MC. R. R.					
Total					

In taking the annual inventory, due regard must be taken of the depreciation of the plant and equipment. Safe rates are as follows: Buildings, five per cent.; horses, above five years, ten per cent.; milch cows,

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The "Advance" is the machine you want. The greatest hatching machine ever built. Endorsed by leading poultrymen as being the simplest to operate—soundest and most satisfactory in principle. Highest percentage of hatches. Mrs. Peabody got 107 live chickens from 108 eggs.

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Gentlemen:—The Incubator arrived safely and I thank you for your promptness in sending same.
Yours truly, Mrs. S. E. Winters.
Advance Mfg. Co., Damby, Vt.
Gentlemen:—I received the Incubator and Brooder all right in good condition. Thanks for your promptness.
Yours truly, Leslie A. Rhoades.
Advance Mfg. Co., Tridelfia, Va.
Gentlemen:—The Advance Incubator will do what you say. I would not do without one. We set ours three times last Spring. The first time hatched 90 chicks, the next 84, and the third 77, and did not test the eggs.
Respectfully, Mrs. W. H. Carroll.
Advance Mfg. Co., Champaign, Ill.
Gentlemen:—I am well pleased with my Incubator—from 90 fertile eggs I got 85 chicks.
Yours truly, J. F. Wilson.

These records have been duplicated thousands of times. Letters in our files speak in highest praise. The Advance is built to last. Has double wood wall, with heavy wool felt lining. Perfect hot water system, copper tank, self-regulating lamp, and thermometer. Requires minimum amount of oil. Perfect ventilation insures big hatches. The Advance guarantee protects you. Start in business. You'll never regret it. Bigger profits for amount of labor involved and investment necessary, than any business you can choose. Ten dollars starts you. Think of it. Write today for full particulars and instructions how to start.

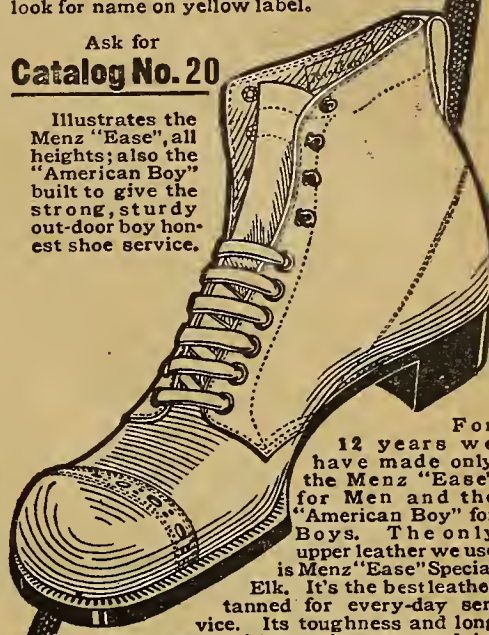
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Hatch Them by Hundreds Sell Them by the Pound

It's great fun to watch the fuzzy little chicks come from the shell—it's better still to count the profits from their sale after they're big enough to market.

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Chick Out-Door Brooder \$4 Both Freight Paid, East of Rockies, \$10

Order both together—save \$1.00 and the freight you want.

The greatest hatching machine

simplest to operate—

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Mrs. Peabody got 107 live chickens from 108 eggs.

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Sirs:—I have one of your machines. Bought it of you over a year ago and got several good hatches. I never saw a machine hold the temperature as good as the Advance.

Yours truly, John L. Tyree.

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Gentlemen:—I made no mistake when I purchased an incubator of you—hatched 87 chicks out of 94 eggs. It is the only machine in the country that I know of that costs so little to run.

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Advance Mfg. Co., Woodland, Mich.

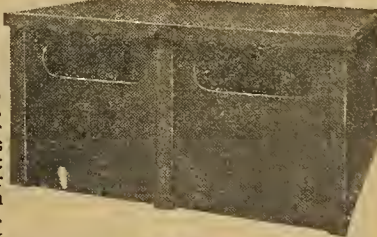
Gentlemen:—I have used your incubator and think it the best of any I have seen. Have good luck every hatch. Would not have any other kind.

Yours truly, Frank Stinchcomb.

Advance Mfg. Co., Gloucester, Ohio.

Gentlemen:—Had a good hatch with your machine—got 94 chicks from 106 eggs. Am well pleased.

Yours truly, Mrs. F. M. Lewis.



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125 Egg Incubator and Brooder Both For \$10

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You Need the Best

Hatching and brooding equipment. That means—An incubator which regulates every condition needed to bring a chick from every fertile egg. A brooder that will provide heat of the same kind and in the same manner as the chicks get under old Mother Hen.

The MANDY LEE, Jr.
60-egg size Incubator and the Mandy Lee Direct Contact Heat Brooder, 60-chick size

make an ideal combination of high grade equipment at a low price. Remember, this is Mandy Lee guaranteed equipment. Both machines complete, including lamps, egg-testers, combination trays, thermometer, hygrometer, etc., \$15.00. Freight paid, except to far western or southern points. Write for book and free offer, in connection with this outfit. Write us for mating list and prices on S. C. White Leghorn stock and eggs from the Mandy Lee farm. Geo. H. Lee Company, 1127 Harney St., Omaha, Neb.

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eight per cent.; machinery, tools, incubators and other equipment, ten per cent.

The Cash-Book

In a satisfactory system of accounts, it is not sufficient merely to record the receipts and payments, nor even accurately to record the items under each entry. What is often more important is the proper classification of the transactions for the purpose of determining the cost of production. This requires practically no additional labor if the cash-book is provided with special columns for the various accounts, as shown in the illustration. The items need not be recorded under payments where the bill is filed for reference. In a business of considerable magnitude, it is suggested that all the cash receipts be deposited and that all the payments be made by check. In that case, the cash-book is also the bank record, and the balance in the bank is identical with the cash balance, when all the checks are paid by the bank. Below is a satisfactory form:

Cash Receipts, 1911

Date	Items	Total	Marked	Unmarked	Stock	Feather	Smelter
Aug 15	20 Leghorns	20.00			20.00		

Cash Payments

Date	Items or Payee	Total	Marked	Unmarked	Stock	Feather	Smelter
Aug 15	Incubator	20.00					

It is important to bear in mind that eggs and poultry used by the household must be entered as receipts, at market prices, the same as other sales.

Records by Day and Month

Below is a convenient record which contains a large amount of information in a condensed form. It is ruled or printed on

Labor, Feed, Egg & Poultry Record for 19

Date	Labor	Feed	Eggs	Poultry	Died	Remarks
Aug 15	100	100	100	100		

a sheet about eight by ten and one-half inches and tacked to a board in each house. In a large business, separate records of labor, feed, etc., may be kept either on separate sheets or in an ordinary time-book.

The yearly summary has the same ruling and headings, but instead of the dates the

Summary, Year ending 19

Date	Labor	Feed	Eggs	Poultry	Died	Remarks
Jan 1						

months are written or printed in the margin to the left. The totals of the monthly

Personal Accounts

Regular ledger accounts need not be kept with customers, and it is generally unnecessary to keep accounts with creditors, since their bills are usually sufficient records. Where eggs and poultry are furnished regular customers on time, it will be found most convenient to set aside a page for each customer in the day-book. Where it is desired to give a bill with each sale, it is advisable to use the common duplicating sales-book, which may be procured through any merchant. If a separate book is used for each customer, no other account is necessary. Personal accounts may be simplified by the use of tickets or coupon-books. It is usually best to regard the unpaid accounts as a part of the annual inventory and to credit the various accounts or branches of the business only through the proper columns in the cash-book.

The Balance-Sheet

The year's work should be tabulated and analyzed at the end of the fiscal year. This statement should show (A) the receipts and payments for the year, (B) the resources and liabilities, and (C) a statement of the profits or losses for the year.

Space does not permit a detailed explanation of the various forms and records referred to. There are two bulletins available on the subject: "A System of Poultry Accounting," Circular 176, Bureau of Animal Industry, Department of Agriculture, Washington, D. C., and my own bulletin on Farm Accounting, No. 33, Oregon Agricultural College. Both are published for free distribution. J. A. BENELL.

The Exhibition Standard

What Breed of Fowls is Best, and Why

THIS is a very important and far-reaching subject and requires much more time and space than I have at my command, yet I will try and get a few facts as briefly as possible.

What breed? It is generally conceded that there is no best breed; that is, no one breed that suits every need. We have some fifty or sixty varieties recognized by the American Standard of Perfection; each breed distinct in its own sphere, with most any color; and most any of them are admirably adapted to the farmer, except a few that one might rightly call altogether fancy, such as the Polish, Silkies, Sultans, LaFlech, Crèvecoeurs and Ornamental Bantams, with their several varieties.

The farmer will not miss the mark very far in selecting any of the following varieties for general purposes on the farm and may breed them close to Standard requirements without any extra care: Plymouth Rocks, Wyandottes and Rhode Island Reds for general purposes, and if eggs are the main object aside from breeding them to exhibition standard, some of the Mediterranean breeds, such as the Leghorn, Minorcas or Black Spanish, with their several varieties, will be found to fill the bill admirably.

Now the question naturally arises, how to go about breeding these varieties to Standard requirements? The best way, what is it? Whether to purchase stock, eggs, or to buy cockerels each year and breed up the flock already on the farm?

The best and cheapest way to do this is to buy eggs from some reliable breeder, as many as you can afford, and the best, and save the best chicks for breeders next year. Then make a small pen, say 30 by 50 feet, to accommodate from ten to fifteen females and one male, depending upon the breed. Now here comes the stumbling-block, the mating of these birds so as to make a step nearer Standard requirements. If you do not own a Standard of Perfection, lose no time in procuring one, and study well the requirements of the particular breed you have, and select only those that come nearest Standard for breeding purposes.

You will find they have to weigh so much and be this or that color in each section. For instance, the Wyandottes should weigh six and one-half pounds for hens and eight and one-half pounds for cocks. Plymouth Rocks, seven and one-half for hens and nine and one-half for cocks, and so on down the list. Now assuming you have your pen mated right, save all eggs from this pen, and hatch your next season's breeders. With reasonable success you should be able to raise from fifty to seventy-five pullets and a like number of cockerels, which can easily be disposed of to your neighbors for breeders at a good price, bearing in mind to toe-mark all chicks hatched from your pen. There are several different makes of punches on the market for this purpose.

In conclusion comes the question, why should the farmer breed Standard-bred poultry?

The reasons are obvious in the following: First, ask your produce man about what is the average weight of hens marketed, and a quick reply will be forthcoming—about three

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With Real Proof Behind It

My World's Champion 140 - Egg Belle City Incubator Only

7.55
Freight Prepaid East of Rockies

Read Description of What You Get for Your Money

BIG full size 140-egg strong, well-made, durable machine that will last a lifetime with proper care—double walls and double doors—dead air space all over—self-regulator simple and perfect—cold rolled copper hot water heating system—copper tank and boiler—safety lamp that does the work day and night—roomy nursery and strong egg trays—equipped with Tyco's thermometer, egg tester and everything you need including simple instruction book of operating, hatching, and caring for chicks—and the price only \$7.55, all freight prepaid. Read description of Brooder: 140-chick size—hot water top heat—double walls—equipped with metal safety lamp—wire runway yard with platform—guaranteed to raise more chicks than any brooder made—price \$4.85.

Complete Outfit—In cubator and Brooder Ordered Together only \$11.50 Freight Paid East of Rockies

Yet my machines, sold at my low price, have been found the winners. The winners in 5,000 Hatches—Then Why Pay More? Remember, I don't ask you to take anything on my say so. I give the most liberal Home Test of any maker in the country—1, 2, or 3 months in your own hands to prove everything I claim—to prove that the Belle City is the World's Champion Machine right in YOUR home. If it doesn't prove it send it back and get all your money—I pay the freight both ways—and we won't quarrel. Remember this: I start you right at small expense—little outlay—you begin to make money right away—and you keep on making it because I couldn't sell so many machines if they didn't work in the hands of inexperienced users everywhere.

You Can Order From This Advertisement If You Wish

Thousands of people have ordered from my ads thus getting their machines early to make first hatches with when eggs are ready. You know the early poultry brings the highest prices. If you are in a hurry to get your machine don't hesitate to order right from this advertisement—you are absolutely secure in doing so. I will also send "Hatching Facts." This paper knows me to be responsible and I give you all the advantage of my Home Test just the same as if you ordered from my Book. With the machine I send you Hatching Facts and full instructions. Any way, answer this advertisement and get Hatching Facts, my Big Portfolio—unique, different from any poultry book ever published, and worth having, no matter where you buy or what machine you buy. I'll gladly send it if you'll ask for it.

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Belle City Incubator Co.
Box 100, Racine, Wis.

Mrs. H. F. Osman of Ohio won the Tyco's Cup offered participants in contest of manufacturers of Tyco's Thermometers.

Mrs. Laura J. Clark of Illinois was a winner in the Missouri Valley Farmer and Nebraska Farm Journal great 1911 contest hatching 140 chicks from 140 eggs.

Mrs. W. J. Black of Indiana Winner in Successful Farming's 1911 Contest with two 100 per cent hatches.

Mrs. M. J. Clifton of Oklahoma, winner in the 1910 Successful Farming Contest by hatching 140 chicks from 140 eggs.

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BIG full size 140-egg strong, well-made, durable machine that will last a lifetime with proper care—double walls and double doors—dead air space all over—self-regulator simple and perfect—cold rolled copper hot water heating system—copper tank and boiler—safety lamp that does the work day and night—roomy nursery and strong egg trays—equipped with Tyco's thermometer, egg tester and everything you need including simple instruction book of operating, hatching, and caring for chicks—and the price only \$7.55, all freight prepaid. Read description of Brooder: 140-chick size—hot water top heat—double walls—equipped with metal safety lamp—wire runway yard with platform—guaranteed to raise more chicks than any brooder made—price \$4.85.

Complete Outfit—In cubator and Brooder Ordered Together only \$11.50 Freight Paid East of Rockies

Yet my machines, sold at my low price, have been found the winners. The winners in 5,000 Hatches—Then Why Pay More? Remember, I don't ask you to take anything on my say so. I give the most liberal Home Test of any maker in the country—1, 2, or 3 months in your own hands to prove everything I claim—to prove that the Belle City is the World's Champion Machine right in YOUR home. If it doesn't prove it send it back and get all your money—I pay the freight both ways—and we won't quarrel. Remember this: I start you right at small expense—little outlay—you begin to make money right away—and you keep on making it because I couldn't sell so many machines if they didn't work in the hands of inexperienced users everywhere.

You Can Order From This Advertisement If You Wish

Thousands of people have ordered from my ads thus getting their machines early to make first hatches with when eggs are ready. You know the early poultry brings the highest prices. If you are in a hurry to get your machine don't hesitate to order right from this advertisement—you are absolutely secure in doing so. I will also send "Hatching Facts." This paper knows me to be responsible and I give you all the advantage of my Home Test just the same as if you ordered from my Book. With the machine I send you Hatching Facts and full instructions. Any way, answer this advertisement and get Hatching Facts, my Big Portfolio—unique, different from any poultry book ever published, and worth having, no matter where you buy or what machine you buy. I'll gladly send it if you'll ask for it.

JIM ROHAN, Prest.
Belle City Incubator Co.
Box 100, Racine, Wis.

Mrs. H. F. Osman of Ohio won the Tyco's Cup offered participants in contest of manufacturers of Tyco's Thermometers.

Mrs. Laura J. Clark of Illinois was a winner in the Missouri Valley Farmer and Nebraska Farm Journal great 1911 contest hatching 140 chicks from 140 eggs.

Mrs. W. J. Black of Indiana Winner in Successful Farming's 1911 Contest with two 100 per cent hatches.

Mrs. M. J. Clifton of Oklahoma, winner in the 1910 Successful Farming Contest by hatching 140 chicks from 140 eggs.



to five pounds, where the Standard-bred hen of the general-purpose varieties will weigh from six to eight pounds; quite a difference indeed.

Second, according to the best information we can obtain, the average hen lays not to exceed seventy eggs per year, where the Standard-bred hen lays from one hundred and twenty-five to two hundred eggs per year, and laying so many more eggs than the ordinary hen, she will naturally lay quite a number in the winter when eggs are high, thus doubling and sometimes trebling the profits.

CHARLES J. COOK.

Convenient Chicken-Coops

MANY who are in the poultry business on a small scale find themselves much inconvenienced by not having serviceable coops ready for hens and chickens that require attention when the time cannot well be spared; and they are often obliged to construct the quickest made coop, even if it does not give entire satisfaction. Any number of really good coops can be quickly made at little expense by procuring at any country store, mostly at no cost but the hauling home, as many empty boxes as you want coops, and placing them in a row with the open ends all facing one way. Nail long strips over the ends, reaching as many boxes as possible; to bottom strip on each box hang a six-inch board by leather hinges for door; leave a 2-inch space below door, to allow the small chickens to go out and in.

In wet weather and in mornings when grass is damp put a 2-inch board strip under each door and hold by two cleats fastened to each door at bottom to keep chicks in, and they will be much healthier than when allowed out in all kinds of weather. A roof of old pieces of board can be put on the boxes, and as many boxes in a row as desired, as in Fig. 1.

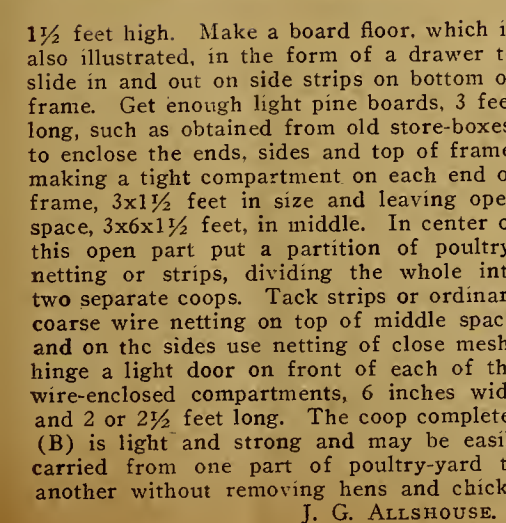
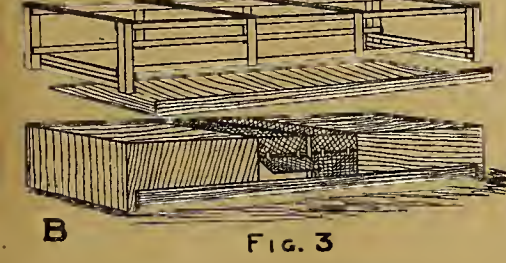
If you have some cast-off rims of old wagon-wheels, some large pieces of old tin or sheet-iron roofing, a few boards, and lath, you may use them up in very serviceable coops. Divide the old rims into half-circles, fasten together solidly at joints; across each half-circle (A, Fig 2) nail a 1x3-inch strip (B) long enough to reach points of rim. Set the arches on ground a suitable distance apart, using two, three or four, according to size of coop; put in a floor (C) of any kind of boards available, supporting

ing and nailing on the cross-pieces on rims. Take the old roofing-material, and tack to rims so as to cover one side and extend a short distance on other side, leaving about three fourths of one side uncovered; nail lath strips across this front side, making spaces for ventilation and light. Board up ends of coop and, if desired, put boards or strips across middle arches, making the coop in divisions. Cover the roof with old pieces of carpet or clothes, to prevent its heating by direct rays of sun in summer or becoming too cold in winter. It is best to hang about three of lower laths on hinges and have cleats on these doors to hold a removable strip of wood, as in the former described coop, to keep the chicks inside or allow them to wander out as desired.

For an excellent and handy coop, procure some wooden strips, say 2x3/4 inches and 12 feet long, and make a light frame (A), as in Fig. 3, 12 feet long, 3 feet wide and about

1 1/2 feet high. Make a board floor, which is also illustrated, in the form of a drawer to slide in and out on side strips on bottom of frame. Get enough light pine boards, 3 feet long, such as obtained from old store-boxes, to enclose the ends, sides and top of frame, making a tight compartment on each end of frame, 3x1 1/2 feet in size and leaving open space, 3x6x1 1/2 feet, in middle. In center of this open part put a partition of poultry-netting or strips, dividing the whole into two separate coops. Tack strips or ordinary coarse wire netting on top of middle space, and on the sides use netting of close mesh; hinge a light door on front of each of the wire-enclosed compartments, 6 inches wide and 2 or 2 1/2 feet long. The coop completed (B) is light and strong and may be easily carried from one part of poultry-yard to another without removing hens and chicks.

J. G. ALLSHOUSE.



Bookkeeping for the Hen-Yard

I BOUGHT me a ledger, and ruled it to suit myself. I set aside six or more pages for "Feed and Supplies," ruled the pages, and headed the columns thus:

Date	Article	Amount	\$	cts.

footing up each column. Next I set aside more leaves, headed "Hatching Record," so:

Date	Name of Hen	No. of Eggs	To Hatch	No. of Chicks

A few more pages were marked "Loss, Killed and Died," and were outlined thus:

Date	Cause of Death	Size	How Many

Some on this page read "Apr. 28, ax, 1; hawk, 1; accident, 2;" etc.

Over farther is "Sales Made," and reads:

Date	Article	No. or Dozen	Price	\$	cts.

Then comes the "Egg Yield:"

Month	No. of Eggs	No. Dozen	Odd Eggs

The daily yield is jotted on a wall calendar and footed up each month for entry in the year-book.

Over toward the back comes the "Yearly Record:"

YEAR	
Eggs laid.....	
Eggs set.....	
Eggs hatched.....	
Eggs sold	
Eggs cash	
Chickens	
Chickens died of disease	
Chickens died of accident	
Chickens killed and eaten.....	
Chickens sold	
Chickens cash	
Chickens feed cost	
Chickens by hawks, etc.....	
Poultry sales.....	
Profit.....	
Total sales for year.....	

Pages can be added for cows, with record of butter made, sold, eaten, cash, etc.; with cow fresh, calf sold, cash, etc.; or berries, etc., as desired. Only a few moments each day is required to fill out the figures, and this outline beats the regular "Farmers' Account Books" sold, for they have pages listed for things many farmers haven't got, and so are very confusing. C. E. DAVIS.

One growler is enough for any community, and there is no money in the job at that.

A strong five-wire fence is a staple product, and should be raised wherever cattle are kept.

The butter globules are not so large in the milk of any other cow as that of the Jersey; for this reason the milk throws up the cream more readily and completely, and it churns more readily than any other. The Guernsey is its chief competitor.

Goose-Growing Essentials

GESE are one of the cheapest and easiest of all domestic fowls to raise. They require little shelter at any time, and if given plenty of pasture, will gather the largest portion of their food from the fields. They are very easily and quickly fattened for market and bring very good prices. Geese for breeding purposes should be purchased in the fall. This is my method for managing breeding and market geese: Never mate over two females to each gander. Never use females less than two or ganders over four years of age. They are allowed to run in a pasture where they have plenty

Get a Watch and Fob Without Cost

Boys: Here is a chance to obtain a handsome and useful watch, and a fine leather fob with a gilt metal charm engraved with **your own initial letter** without cost. FARM AND FIRESIDE guarantees you satisfaction.

DESCRIPTION: This watch has a handsome nickel case, with open face. It is a stem-wind and a stem-set, just like other high-priced watches. It has a close-fitted snap back. It is only 3/8 inch in thickness. It is a perfect timekeeper, tested and regulated before leaving the factory. It is engraved front and back, and is a watch of which anyone would be proud.

The Fob is of handsome black leather with a polished buckle, like illustration, with a rich gilt charm engraved with **your own initial.**

MOVEMENT: Regular 16 size. Lantern pinion (smallest made). American lever escapement, polished spring. Weight, complete, with case, 3 ounces. Quick train, 240 beats to the minute. Short wind, runs 30 to 36 hours with one winding.

Every watch is fully guaranteed by the manufacturers and by FARM AND FIRESIDE. The manufacturers will make all repairs for a year free, as explained on the guarantee.



How to Get the Watch

You can get this dandy watch and fob very easily. Write a postal-card to the Watch Man. Tell him you want to get this watch and fob without spending one penny. He will be glad to help you get your watch. This is a chance you must not overlook.

Thousands of delighted boys have secured their watches this way with the help of the Watch Man. You can do it, too. Any boy that really wants one can easily get this fine watch. But how will the Watch Man know about you if you don't tell him?

Write a Postal To-Day to THE WATCH MAN
FARM AND FIRESIDE, Springfield, Ohio



Fortune-Telling Post-Cards

In Sets of Twelve

A DIFFERENT card for each month in the year, showing the birthstone, the sign of the zodiac and a brief horoscope—witches, owls, crescent moons, black cats and all of the Fortune-Teller's paraphernalia. With these cards you can have loads of fun telling the fortunes of your friends. Tell them their lucky and unlucky months and days. You can tell them more about their characteristics than they know themselves.

ALL FOR SIX CENTS

postage. Send us three two-cent stamps, and in return we will send you, post-paid, a complete set of these new Fortune-Telling Cards. Send at once to

DEPT. E
FARM AND FIRESIDE SPRINGFIELD, OHIO

The Secret of Buying

Which is the better way to buy, blindly paying two or three profits—or going direct to the representative of the leading manufacturers of the United States? Our **Free Catalogue** of

HOUSEHOLD AND FARM ARTICLES


shows you the secret of saving money on every purchase, and of obtaining goods of unsurpassed merit. Every article guaranteed exactly as represented. Money refunded if you are not satisfied. Full illustrations. Prices that will astonish you. There is something in this list you need. Send today for our interesting **Catalog**. It's absolutely free.

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Farm Machinery
Fencing Wire
Furniture
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Hardware and Tools
Harness and Saddlery
Hats and Caps
Jewelry
Mechanics Tools
Paints
Poultry Supplies
Pumps, Water and Spray
Roofing Material
Rugs and Carpets

Sewing Machines
Shoes and Boots
Stoves and Ranges
Trunks and Satchels
Wagons, Farm
Wall Board
Washing Machines
Water Supply Outfits

Manufacturers Distributing Co.
PITTSBURGH'S MAIL ORDER HOUSE
Department F. S.
325-327 Penn Avenue,
PITTSBURGH, PA.



\$7.35 **BUYS THIS** **155 EGG INCUBATOR**

Biggest incubator ever sold at the price—has hundreds of dead air cells—well made, has cold rolled copper tank, hot water heat, double disc regulator, deep nursery, high legs, double doors, egg tester, safety lamp. Special price \$7.35. Incubator and Brooder together \$9.85. Freight prepaid East of Rockies. BIG BOOK FREE. Order direct from this ad—our "Buy Back Guarantee" protects you. If you want details of this great incubator offer, send without delay for our big book "Progressive Method".

Progressive Incubator Co.,
Box 142 Racine, Wis.

\$7.35 **BUYS A 125 EGG GUARANTEED NATIONAL INCUBATOR**

Made of sheet steel lined with asbestos and interlined with strong fibre board. Corners and edges sealed with metal strips. Air tight, cold, damp and fire proof—won't warp. Hot water heating system. Automatic heat regulator. Perfect thermometer. Cold rolled copper tank. Non-breakable lamp. Deep nursery and egg chamber. Gives almost 100 per cent results always. **Guaranteed 5 years. Money back if dissatisfied.** Incubator, \$7.35, Brooder, \$4.00; when ordered together, \$9.35. Order now. Booklet on request.

NATIONAL INCUBATOR CO.
1151 19th St.
Racine, Wis.

60 egg size \$6.50.

I WANT A MAN or woman of intelligence and reliability in every locality to act as our representative. Substantial remuneration to the right party. Careful training. Permanent business. Good opportunity for promotion. Address Chief of Subscription Staff, The Crowell Publishing Company, Springfield, Ohio.

YOUR HENS **The Story of 25 Years**
YOUR FARM
YOUR MONEY

with Poultry and Farmers and Fanciers will help many Farmers get more eggs—better prices; make more and save more money; tells things few folks know on making money with hens. Find out about America's Largest Line of Incubators and Brooders, and get six poultry chapters written by Robert Essex himself—It's all in our Free Catalog—Write today. Address **Robert Essex Incubator Co., 83 Henry St., Buffalo, N. Y.**

Money Making Poultry
Send for free book, full of practical poultry information. Describes early maturing heavy winter laying, Pittsfield Barred Rocks, now mated with the Covell trap nested strain. 16 Points Won at N. Y. Poultry Show, 1911. 3d and 6th prizes—5th Pen—7th Hen. Day-old chicks, hatching eggs, breeding birds. Order now.

Pittsfield Poultry Farm Co.,
610 Main Street, Pittsfield, Mo.

Barred Rocks PITTSFIELD

SHOEMAKER'S BOOK on POULTRY

and Almanac for 1912 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chicken-dom. You need it. Only 15c. **C. C. SHOEMAKER, Box 469, Freeport, Ill.**

112 PAGE POULTRY BOOK FREE

Tells how to succeed with poultry on the ordinary farm. How to make a first-class brooder out of an old piano box. What breeds lay best. Plans for poultry houses, how to feed, breed, etc. Describes **PRAIRIE STATE Incubators and Brooders**. You will be surprised at the valuable information it contains. It's free. Write a postal for a copy today. **Prairie State Incubator Co., 415 Main St., Homestead, Pa.**

GREIDER'S FINE POULTRY
Book and calendar for 1912 contains 200 pages, 72 varieties pure bred, 62 colored plates. Many other illustrations, descriptions, incubators and brooders. Low prices on all stock eggs. How to raise and make hens lay. Get my plans. They all say it's great—this book—only 15 cents. **B. H. GREIDER, Box 62, Rheims, Pa.**

Foy's Big Book MONEY IN POULTRY AND SQUABS

Tells how to start small and grow big. Describes world's largest pure-bred poultry farm and gives a great mass of useful poultry information. Low prices on fowls, eggs, incubators and brooders. Mailed 4c. **F. FOY, Box 10, Des Moines, Iowa**

55 BREEDS Pure-bred Chickens, Ducks, Geese, Turkeys, also Incubators, Supplies, and Collie Dogs. Send for large Poultry Book, Incubator Catalog, and Price list. **H. H. HINIKER, Box 37, Mankato, Minn.**

43 VARIETIES poultry, pigeons, geese, turkeys, dogs. Incubators, freight paid. Catalogus 3 cents. Missouri Squab Co., Dept. X, St. Louis, Mo.

MONEY MAKING POULTRY
Our specialty. Leading varieties pure bred chickens, turkeys, ducks and geese. Prize winners. Best stock and eggs. Lowest prices. oldest farm, 27th year. Fine catalog FREE. **H. M. JONES CO., Box 54, Des Moines, Ia.**

Latest Book "Profitable Poultry." 120 pages plain, practical facts, 160 beautiful half-tones. Tells how you can succeed with poultry. Tells about big poultry farm. 45 pure-bred varieties. Lowest prices, fowls, eggs, incubators, etc., sent for 5 cents. **BERRY'S POULTRY FARM, Box 39, Clarinda, Ia.**

"BRED-TO-LAY" Poultry Pays. 31 Varieties: Stock, Eggs, Baby Chickens. Incubators, Brooders, Poultry Supplies. Big Catalog 4c. **HARRY E. RUBLE, Box 9, Albert Lea, Minn.**

GET MORE EGGS
Twice as many by feeding green cut bone. **MANN'S BONE CUTTER** 10 Days Free Trial. No money in advance. Catlg free. **F. W. Mann Co., Box 32, Milford, Mass.**

Two Poultry Girls
Who cleared \$976.50 from MARKET poultry in two years. They used my Gem Hatcheries and Brooders costing only 35 cents each. Over 70,000 of these famous inventions are now used by the most successful poultry raisers in every State. Hatch **STRONG** chicks and **RAISE ALL** of them. Send stamp for Booklet. **P. GRUNDY, POULTRY EXPERT, Morrisonville, Ills.**

of grass to eat and water to swim in. In winter and during the laying season I feed them lightly the following ration: Bran, four parts; shorts, two parts; corn-meal, one part; and in winter cut clover, steamed, four parts, is added. A goose will lay thirty to forty eggs in a season if not allowed to sit. The eggs require thirty days for incubation and invariably hatch well. Goslings are removed from incubators as soon as dry and placed in brooders where the heat for the first twenty-four hours is ninety degrees. After the first twenty-four hours the heat is reduced one degree daily until the goslings are ten to fifteen days old. Beginning the third morning after hatching, our goslings are fed as follows four times daily, by measure: Bran, one part; rolled oats, one part; corn-meal and shorts, one part. This mixture is dampened with skim-milk until it will crumble. Grass, grit and drinking-water are always before them. Water is given in fountains, so they cannot get into it. They are fed as mentioned until they are eight weeks old, when those for market are closely confined to be fattened, and fed as follows, three times daily, all they will eat: Bran, two parts; shorts, one part; oil-meal and beef-scrap, one part; corn-meal, one part, dampened until it will crumble. Whole corn is frequently given. Green food, grit and water are always before them.

A. E. VANDERVORT.

Products Shipped by Post

FOR over a hundred years Germany has had a parcels post, and since 1873 her present very effective and successful system. When I first came to Germany, I at once noticed the immense number of packages that were being loaded and unloaded at the railroad stations, and that special cars carrying nothing but these packages, and sometimes three and four such cars, were seen on every train. In the cities I frequently saw long lines of post-office wagons, and I could not understand why it took so many wagons to haul the mail. Upon inquiry, I was told in a very disinterested way that they were the "paket post" wagons. Then it dawned upon me that this was parcels post, the thing that we have been beseeching Congress to establish and the thing that the Grange and other farm organizations in the United States have been endorsing in their resolutions for years. I had come here to study European agriculture and here was my opportunity to see what parcels post actually means to the farmers, and I began to investigate.

At my boarding-house in central Germany I asked my landlady where she got her butter, which was of excellent quality. She told me it came from Holstein in the north-western part of Germany, two hundred miles away. I asked if it was not expensive to have it come so far. "Oh, no," she said, "we have it come by post and have gotten it every week for several years from the same man. You know we can send a package by post up to five kilograms (eleven pounds) to any place in Germany for fifty pfennigs (twelve cents)." I then understood why I had seen such quantities of packages in the railroad stations and so many parcels-post wagons on the streets in the cities. I inquired about how commonly it was used for the marketing of farm products. Here in Halle, which is a city of about 200,000 population in the central part of Germany, I find that it is a very general practice for families to get their supply of butter, eggs and poultry sent to them every week through the parcels post, and they are delivered to their door just as a letter would be.

Parcels-Post Rate

The parcels-post rate here is very low and is uniform for all packages under eleven pounds in weight. For any distance up to ten miles they can be sent for six cents; for distances over ten miles they can be sent any place in Germany for twelve cents. Postal authorities may refuse to accept very perishable products, and at their discretion may increase the rate for very bulky products up to one half of the original rate. Packages up to 110 pounds in weight may be sent through the mail, but after the weight exceeds eleven pounds the rate is fixed according to the weight of the package and the distance it is sent. The great benefit of the system is its convenience and cheapness for the shipment of small packages, and it is for this purpose that it is principally used.

Agricultural Products Shipped by Post

Among the agricultural products that are sent by post, butter ranks first, and especially from northeastern and northern Germany is it sent to the large cities of central and western Germany. In the railroad station of Berlin, of the lines coming from eastern Germany, thousands of packages of butter are handled every day.

Next in importance is the shipment of eggs and dressed poultry, especially of geese, which come in immense numbers from Pommern in east Germany. The goose is the national feast fowl of Germany, just as the turkey is of America. Through the parcels post it is possible for the farmers two or three hundred miles away from Berlin, Leipzig or Dresden to ship eggs each week

to customers who live in these cities, and the advantage is mutual. The man in the city deals directly with the producer and is able to get fresh goods, and if they are not fresh, he can make complaint direct to the one who is responsible, instead of to a dealer. Cheese, honey, fruit, vegetables and flowers are also important products in the parcels-post shipment from the country. Cream and milk may be sent, but it is not found advisable to ship them to any extent by this means. The general use of the parcels post by the farmers is shown by the statistics of the post-offices of rural deliveries, which show the number of packages sent out by the offices much greater than the number received, and the farmers of Germany seem to have used the parcels post more freely for selling their products than they have for buying what they consume.

A farmer here can ship his goods through the post and have collection made for it when delivered and remitted to him for a very small sum, and, of course, the merchant can do the same in shipping his goods to the farmer. The convenience of the system appeals to me very strongly, for the parcels are taken up and delivered in the country just as letters are, and every part of Germany has at least one rural mail delivery per day, and the greater part of it has two deliveries. It is certainly a great contrast to our present facilities for shipping packages in America. For example, at my home in Columbus, Ohio, I live just outside of the zone in which the express companies make deliveries (an arbitrarily fixed district of very limited area), and each week I get a basket of butter, eggs, poultry, etc., sent from my farm some twenty miles away. The basket must not only be taken to the express office, some five miles from the farm, and sent by express to Columbus at a

An Announcement

FARM AND FIRESIDE has secured the greatest farm-fact story that has ever been written. It is a study in cooperation. It tells how the grain and coal trusts, and the lumber trusts, too, fought the farmers in order to accomplish their selfish purposes. And then it tells how these farmers fought and whipped these trusts. It is a story that will interest readers everywhere, for every state in the Union has conditions just like those in the state where the battle, about which this story tells, was fought. The first instalment of this story will appear March sixteenth.

cost of thirty cents, but I must go to the express office and get it. With a parcels post such as Germany has the basket would be taken from the farm by the rural mail delivery and delivered to my house in Columbus, and it would cost twelve cents instead of thirty cents.

Cost of Distribution Reduced

We may theorize about how the profits of the middleman can be reduced and the expense of distribution decreased and the distance between producer and consumer shortened, but where are we to get a more simple and effective solution than by establishing a parcels post? What will do more to reduce the cost of living to the man in the city and to increase the income of the farmer than to have them deal directly with each other through a parcels post?

When one sees what a convenience the parcels post is and how much it means to the economic prosperity and welfare of both the man in the city and the man on the farm, it is hard to realize how any interests have been strong enough to hold back legislation establishing it in our own country.

The advantages of the parcels post as it is found here may be summed up as follows:

1. It gives a cheap and convenient method of sending small packages any distance.
2. It affords a method for farmers marketing butter, eggs, poultry, fruits, vegetables and flowers direct to consumers.
3. It affords the city man an opportunity of getting fresh produce direct from the producer without the intervention of the middleman.
4. It affords the merchant a method of selling and delivering goods direct to the farmer.
5. It tends to establish uniform prices for produce, since the cost of sending produce in packages of eleven pounds or less is uniform, when the distance is over ten miles.
6. It affords a means of transportation that is mutually beneficial to producer and consumer.

H. C. PRICE.

The good farm paper is a much more desirous companion for the farm boy than a yellow-back dime novel.

To find out what his farm paper stands for, the tired farmer should sit in the most comfortable chair in the house.

A Modern Swindle

[CONTINUED FROM PAGE 4]

committee decided that it should be that and nothing else. The Board men then go back to their business places and pay the creamerymen for all receipts of that grade at the rate of thirty cents a pound. Meanwhile, the dealer is selling the butter for thirty-two cents a pound; often it runs up to as much as four cents above the Board's figures. The creamerymen suppose, of course, that they are getting the top-notch Chicago price, suspecting in their ignorance that "official" quotations of a regularly organized butter and egg board coincide with actual prices.

Presuming that a two-cent-a-pound "rake-off" on every pound of contract butter represents about the average—which it does not, for it is really greater—then the 300,000 pounds of butter sold every day "on the street" means a net daily profit of something like \$6,000 for the dealers—and a net daily loss of the same amount to the creamerymen, the farmers and the dairy people. In a year's time the figures would jump up to within easy reach of the two-million-dollar mark.

As a five per cent. dividend, that represents a capital of about \$40,000,000, or, to put it differently, the farmers and creamerymen of the Middle West, who are engaged in the business of selling butter on South Water Street under the annual contract system, as before outlined, would be worth \$40,000,000 more were the Chicago Butter and Egg Board eliminated than they are to-day. They wouldn't have that much more money, to be sure, but they would enjoy the income from that amount—if the actual wholesale prices of South Water Street were obtained for their butter.

Albert Welch, assistant United States district attorney, who is in charge of the government suit to break up the Butter and Egg Board, on the ground that it is a body of men operating in restraint of trade, says that the sole excuse for the Board's existence is to manipulate prices of eggs and butter in favor of the big dealers.

"The big dealers do not only flimflam the creamerymen, whom they have absolutely in their clutches, but their combination actually boosts the prices to the retailers unreasonably," Mr. Welch declared, adding, "that in turn raises the prices the consumer has to pay. Thus, with one hand they rob the producer, while the other is deep in the pocket of the 'ultimate consumer.' In more homely language, they 'get us a-coming and a-going.'"

The Chicago Butter and Egg Board has little or no influence on the New York market; the Chicago market has, of course, in so far as the law of supply and demand regulates prices of a product which can freely circulate from one city to the other within a few hours. As before noted, the Chicago market is not the Chicago Butter and Egg Board, except alone for the creamerymen who sell their output by contract.

The Elgin Butter Board does have a commanding influence on the New York market, for most all the western butter sold in New York is bought under the yearly contract plan at prices following the Elgin Board's offers and sales.

Usually the Chicago Board takes its price cue from the Elgin Board. The reason for that is that the Middle West creamerymen have the option of selling to New York at Elgin quotations or to Chicago at the Chicago Board's quotations. Hence a rise in the wholesale price at Elgin is followed the succeeding day by a similar boost in Chicago quotations.

Green Bone for Poultry

ONE of the most necessary and, in my experience, one of the best feeds for poultry is green cut bone. In my estimation, no other food can entirely take its place. There are different food elements required for fowls, and one of the most essential is protein. Other elements are also necessary, but this is given the most attention by poultrymen. In green cut bone, we find a large percentage of this most essential element, hence its great value as a poultry-food. There may be objections to feeding green cut bone, but it is certain that the advantages more than compensate. I know what I am talking about, for, having been in the poultry business all my life, I have tried every feed known.

Green bone can be fed advantageously to fowls intended for many different purposes and under different conditions. It is a great help in hastening the growths of young birds, but the greatest help that green bone has done for me is to supply them with animal food during the winter months. When fed to laying hens, the egg yield will be increased wonderfully and the poultry-raiser will be repaid for the labor expended. It is a food which all fowls eat readily and must be fed judiciously. It is a recognized fact that animal food in some form must be given during the winter months to get a satisfactory egg yield and keep the fowls in a healthy condition, and while it may be supplied in other ways, in my own experience I find it the most economical and satisfactory one.

When feeding bone, the poultryman should by all means have a bone-cutter. It pays in the long run.

A. E. VANDERVORT.



The FARMERS' LOBBY.

Farm Banks Are Needed

By Judson C. Welliver

no habit more ingrowing and self-developing than that. The experience of these coöperative peasant banking concerns has demonstrated that fundamental honesty is really one of the commonest characteristics of nearly all people.

There are now several thousand of these societies in Germany, and they have extended in great numbers to practically all the countries in Continental Europe. It would be impossible to tell, and few people who have not closely studied their work would be willing to believe how much they have done to improve the economic conditions of the mass of working people. The great majority of these associations are based on the principle of one vote for every member in the management. He may own as many shares of the stock as he is able to pay for, but is limited to one vote. If this system does not please the ambitious stockholder, he must withdraw from the coöperative concern and invest his money in the ordinary joint stock company, which gives voting power in proportion to holdings. After the system was thoroughly established, the German laws were changed to permit voting in proportion to stock holdings; yet the old plan had worked so successfully that very few indeed made the change.

Another striking characteristic of these coöperative peasant concerns is their feature of unlimited liability. If, for example, one of these concerns borrows money, all the members are liable for the loan to the extent of their entire resources. Probably this plan of unlimited liability would be even more abhorrent to American conception than the other of equal participation in management. Obviously, it is unfair that a man who owns only a single share of stock should be liable for all the debts of the concern, just as much as a man would be who owned a hundred shares. In actual operation, this feature has at times imposed very severe hardships. Thus, a number of years ago one of the associations failed, and in winding up its affairs an average deficiency of \$399 had to be made up by each member. The highest payment made by a member was \$5,712, while the lowest was only \$3.57, but failures have been exceedingly rare, and grievous ones much more rare.

What the Banks Do

THERE are both kinds of societies in Germany, but those with unlimited liabilities constitute, according to the latest statistics I have been able to reach, near 97 per cent. of the total number. The fact that liability is unlimited makes their credit better, attracts more deposits, enables them to secure deposits at lower rates of interest, and on the other side makes it possible for them to loan money more cheaply.

The average interest rate paid by these coöperative concerns in one recent year for which the figures are available was $3\frac{1}{2}$ per cent., and the average rate received was $5\frac{1}{3}$. This latter rate did not include the commission upon loans, commonly one half of one per cent. Comparing these very moderate rates with the case of the small tradesman whom we have seen paying at the rate of 730 per cent., it is easy enough to appreciate what a burden of usury has been lifted from the backs of the working people of Germany. In fact, the benefit they have derived from the coöperative credit unions are not to be measured merely by the reduction in the interest rate. The point is that before there were any of these credit unions it was well-nigh impossible to borrow money at any rate. It is vastly easier now for the average man to borrow at 6 per cent. or less than it was sixty years ago to borrow at 60 or even at 100 per cent. Finally, the incentive that these institutions have given to even the poorest people to save some part of their income has been of inestimable benefit in improving the general social and economic condition of the German people. We are wont to wonder at the tremendous strides made by industrial, agricultural and financial Germany in the last half-century. A very large part of this progress may be explained when one understands the universal influence of the coöperative credit associations.

I have not been able to get accurate figures on the membership in these coöperative unions in very recent years. The best estimate I can get is that something like two million German people of the middle and

poorest classes are members. It is certainly interesting and suggestive that the aggregate business done by these little peasant institutions has been larger in a good many years than that of the Imperial Bank of Germany. This is practically a business that did not exist, a business whose existence was not known to be possible before these coöperative institutions were invented. The latest year for which the figures are at hand reports that about 41 per cent. of all the members were farmers, gardeners, foresters or other persons employed in rural industry. These proportions have very considerably changed, however, in recent years and the proportion of agricultural members is now considerably less.

These Banks are Efficient, Too!

EACH association has a board of managers, commonly of three members; a supervising council, usually of nine to fifteen members, and, finally, the general assembly, of all the members, which elects the supervising council and the board of managers. The management consists of the director, the cashier and the comptroller, who conduct the business very much as the officers manage any bank. The organization must be inspected at regular intervals by some person not a member, and if at any time its property is found insufficient to cover its debts, the general assembly must determine whether it shall be dissolved.

While this system of popular banking is more highly and extensively developed in Germany than in any other country, it has accomplished wonders for the improvement of economic conditions among the agricultural population of Italy and Austria. Seeking a condensed statement of the benefits which they have brought to the agricultural population, I find a strikingly simple and understandable presentation in a recent report of the Italian Minister of Finance. These coöperative popular banks in Italy receive deposits, grant loans and discount bills solely on behalf of their members. They have placed Italy's agricultural credit on an excellent basis. There is scarcely an agricultural center of any importance without a popular bank or a branch of such an institution. Their action is powerfully seconded by the savings banks of the great cities, which have been developed in Italy perhaps more rapidly than in any other country. Though seeking to place their funds where they will be safe, easily collectable and sufficiently productive, these savings banks make it an object to pour back into the economic circulation the capital collected by saving. A part of it is invested in government bonds and in provincial and communal securities, while another part serves to support the small lines of trade and agricultural industry by discounting bills and notes running for long terms. Thanks to the rapid extension of these popular banks, all solvent cultivators find similar facilities of credit to those enjoyed by the merchants of the city and are able to make their loans for a longer period.

Interest Everywhere in the Subject

THERE has recently been awakened in this country a keen interest in these systems of popular banking in Europe. The International Institute of Agriculture, which was founded by an American, David Lubin, of San Francisco, and to which no less than fifty nations now adhere, is about to publish a carefully prepared study of these institutions with a view to suggesting how they may be adapted to American needs. The legislature of Nebraska has directed the Department of Political Economy of Nebraska State University to make a careful study and report upon these European systems of popular banking and credit. Officers of the Grange have also been interesting themselves in the same subject, with the view to determining whether the Grange, the Farmers' Union and like organizations cannot expand their function to include such operations.

The work of the International Institute of Agriculture in this direction is of especial interest and importance. This institution deserves to be a good deal better known to the American people than it is now. It is rapidly developing into one of the most powerful agencies ever devised for bettering the condition of the agricultural population of the entire world, and for solving the very practical problems which center about the cost of living everywhere. This International Institute of Agriculture is taking steps now to introduce to the American people this European system of popular banking; just as it is also introducing in Europe American methods of scientific agriculture.

NOT very long ago my attention was called to the fact that people with money to loan seem to show increasing disposition to invest it in business conducted in cities and towns; in factories, railroad securities, merchandising, and the like, and less disposition to put it into agriculture. The city man, on the whole, gets money easier for his business than does the country man. This is true in the East generally, in most of the South and Southwest, and in some sections even of the Middle West.

What's the matter with the farmer's credit? He's supposed to be prosperous and as honest as anybody else. Yet I have recently seen the city man borrow on his city home, up to eighty per cent. of its value, at five per cent., while the farmer in the same community must pay six per cent. to get a loan of half the value of a mighty good farm. Something wrong here.

The Difficulty of Getting Money

IF THE farmer who owns his land and therefore has the best security on earth, experiences difficulty in getting loans on fair terms, the position of the tenant-farmer and the farm laborer is vastly worse. Generally speaking, we have in this country no financial organization that contemplates extending credit to these classes. On the other hand, the peasant farmers of Germany are right now doing a business of nearly \$2,000,000 a year with themselves, through their little coöperative banking associations, which gather together vast numbers of small deposits and loan them to members of the association. These coöperative organizations are based on the idea of giving the individual a credit, a borrowing capacity, simply because he is a member and because the organization takes account of his individual character and work, without reference merely to the amount of property he may hold. The necessity for introducing something similar to this European system of coöperative loaning has of late been profoundly impressed on many students of American agricultural conditions. The tendency of our present financial system is to aggregate together the savings of the small men, and then loan the money in large sums to a comparatively few people who are in the way of big industrial or financial operations. There is almost no provision for loaning the small man the small amount of money he may need in his small way of business. So long as he does not borrow, and so long as nobody organizes any plan which looks to making loans to him, the small man establishes no banking credit. In Europe, and particularly in Germany, the man of small affairs coöperates with others of his own class to do his own banking business. This is called the Raiffeisen system, named after Frederick William Raiffeisen, its founder. Another form of the same system is known as the Schulze-Deleitzsch system.

Doctor Schulze organized his system originally with reference to supplying the needs of small tradesmen and other people in the German towns, whom he found borrowing at exorbitant interest rates from loan-sharks. Schulze relates that one small tradesman in his town, being compelled to borrow fifty thalers for a few days, had to pay one thaler a day, or at the rate of 730 per cent. interest per annum. An interest rate of one thaler a month for a loan of 20 thalers was common, making the charge 60 per cent. per annum. This was utterly ruinous to enterprise and discouraging to industry among a great class of the most frugal and worthy people.

How the Methods Worked

IN THE beginning, in order to assure that only deserving people should get into the association, Schulze required every member to buy a share in the society. This could be paid for in instalments, and even when paid up might be worth only a few dollars. But two purposes were served by this plan. First, a large number of members, contributing each the price of a share, gave the association a basis of capital and credit with which to do business. It was able to go to a bank with this showing of credit and borrow more money, at low rates, to be re-loaned to its members if they needed it. Second, there was reasonable certainty that people who were thrifty enough to take out and pay for their own shares could be relied upon to repay loans which the association made to them. It is evident that Schulze pretty well understood human nature, that his scheme proved almost uniformly successful. It got the peasantry into the habit of saving money, and there is



Junior Partners

And How They Helped the Company

By Gladys Hyatt Sinclair



LEANOR WARD took a blanket and pillow out into the shady back yard that hot Sunday afternoon, and lay down upon them. She had never done such a thing before in her life—but she was ready for things she had never done before. The magazine was unopened beside her, and she lay in the limp inertness of exhaustion and dismay.

The day had been hot—so hot. She had cooked a hot breakfast, and washed dishes in hot water, separated milk, fed little chicks in the hot sun, picked up the soiled clothes after Saturday-night baths, made beds, and drawn shades to shut out the heat, got a good dinner in a kitchen that was hot in spite of the gasoline stove—a company dinner for friends of Claire, her college girl. She had eaten little, and clearing the scraps and dirty dishes had sickened her. More hot water, more tidying up, then her chair and magazine at last. But it was too hot to sit indoors, too hot to read. The young folks were hilarious on the porch, and she was here.

The girls had helped, of course. They had helped wash the dishes after breakfast. Claire had set the dinner-table, and Kathy had helped pare potatoes and dish up. Each had made her own bed. But they were young and careless. They had been trained to work, but not to take responsibility, and they could not see the manifold small duties that eternally blocked the mother's days. She had sent them off to their friends after dinner, and they had gone.

For a few minutes the woman lay without thought, stupid, though not sleepy. As her thoughts waked from their torpor of exhaustion, they trooped back over the day—Sunday! "But the seventh day is the sabbath of the Lord thy God; in it thou shalt not do any work." Her lip curled. "If Moses had been the mother of sons and daughters on a farm, I wonder if he wouldn't have written 'much work,'" she thought.

Even then the law would have been broken. The summer had been like the day, much work every day and Sundays too, when even the cattle rested. She had hurried and rushed from one big job to another, catching up the little ones on the way, or in the brief, enforced snatches of time between, planning ahead, always behind, with this or that staring reproachfully and maddeningly at her while she worked.

The scent of sweet alyssum came to her from Kathy's border, within reach. Eleanor realized with a start that she had not smelled it once the whole summer—and she had used to revel in its perfume. Puffy, pearly clouds floated above her against deepest blue. How beautiful they were; when had she stopped to look at them before? An oriole in the apple-tree called to his mate over and over, "You are my sweetheart? You are my sweetheart?" Had she actually listened to a bird since the first robins? She saw that Milton's goarvines had scaled the kitchen eaves; when last she really saw them, they were a foot high.

"What has happened? Am I going blind or dead with work? I, who know more about birds and flowers and even the fishes than any other woman in the township? What has happened? Where am I going? I used to have time for these. I knew Nature's pulse-beat for every week in the year. When the five were little, I had time to care for their bodies and minds, too; they are richer than most in the lore of song and legend, of wood and field. Now my baby is ten, and the others are doing bravely with this capital I gave them; I am proud of them; but for me it is bodies only. What has happened? They are good boys and girls. They love me. The trouble lies with things, not people; things to be done. But how are there more things to be done now than when I had five little ones?"

Her thoughts flew back to the dinners of the five when Claire, the oldest, was ten; bread and milk, eggs and apple sauce; then to the dinner to-day! She saw the little boys in their overalls and bare feet; the girls happy in dark gingham, and remembered the rack full and hooks full and nails full of starched shirts and white skirts and dresses she had ironed last Tuesday.

She pictured the old house with its one big living-room, uncrowded because there was little furniture;

the two big bedrooms, and the big, cheerful dining-room and kitchen. An hour each day she had swept, dusted and straightened them all. Now, in the big new house, with its many pretty furnishings and adornings, she could always see something undone, try they all ever so hard.

She dug out and faced squarely this skulking, haunting sense of things undone; clothes unmade; letters unwritten; relatives unvisited; books and magazines unread; rest untaken. She was losing her own individuality, was being drowned in work. The home was losing its united, governed, cultivated home atmosphere and becoming merely a nice place for the young people to meet and be gay, because she was too rushed and too weary to hold her own. She felt weighted, tangled, confused, smothered, almost beaten by things that waited with terrible patience for her hands, while every day was choked with its own work, with little, ever-recurring tasks that ate up her time.

Almost beaten, but not quite. Years of hurry had dulled her wits, but not extinguished them, and in her school-teaching years she had been keen of brain. Now fear and convention and a false sense of love and duty had hounded her for years till she was driven to the wall. She put her mental back against it and faced them.

"What do I really want? A chance to do a good day's work every day, to read or visit evenings, to enter into my children's interests, to really live and drive my work, instead of being driven by it like a galley-slave. There is too much to be done and not enough help. The work is necessary, and hired help is out of the question while I am well. But if I did for the seven of us while the children were little, it does seem that three of us ought to do for the same seven now, even if there is more to do. Where *does* the trouble lay? The girls both help—"

The hilarious visitors were gone, and Claire, the sweet-faced eldest, came strolling around the corner of the house. At sight of her mother stretched limply on the blanket she stopped. "What's the matter?" she questioned quickly.

"Nothing. Yes, everything. We can't go on like this. I can't stand it. There has got to be a change, and I don't know what to do!" The feelings that had at last crystallized into thoughts under the long hard pressure swept out from her trembling lips, and Claire sat before her and listened with her hands in her lap and the tears rolling unchecked down her cheeks.

"It's all true, every bit, and it's dreadful, and I'm so glad!" she sobbed at last.

"Glad?"

"Yes, so glad you see it, even this late. I saw it when I first came home; I've seen it right along, but I couldn't help much. You say you don't know what to do. I know. We must split the housekeeping into departments and cooperate. You know, dear, I have wanted to take some parts of the work and run them, but you never would let me. Kathy and I keep going, but with no actual responsibility we don't help much. We are losing energy through poor connections, as the machinists say. It is bad for us girls, too. We don't help enough for what work we do, and we don't get enough satisfaction out of our work, either. Our days seem empty and foolish when we just help about at odd jobs as little Cecile does. There is no particular pride in our work, no incentive to lengthen our stroke, or give up even the most unpromising 'pleasure exertion,' for nothing is our business, nothing stops when we stop, no effect in the home-making belongs to us, good or bad.

"You have too much responsibility; you see what needs doing too far ahead; we have too little, so we don't see far enough ahead to accomplish much."

"Claire's struck it!" said Kathy briefly, coming through the kitchen door with an arm about little Cecile's shoulders. "What next?"

"We can't cut down the work a great deal," said Eleanor.

"But we can cut it up better," returned Claire. "Let's see! There's washing and ironing, cooking and baking, churning, sweeping and dusting and the everlasting picking up—"

"Mending and sewing," added Cecile, drawing up her slim black leg to hide the hole she had worn in her stocking that day, and pulling down her all-too-short skirts.

"Canning and preserving," supplemented Eleanor. "That about covers the ground."

"Now, let's each take what she can do best and easiest, what she would rather do, and be absolutely responsible to the family for that work for the next three months and see if things aren't smoother and all of us happier. You're first choice, Claire. If we let Mama choose first, she will take it all."

"The cooking, then!" cried Claire with shining eyes.

Eleanor gasped as a blind man might gasp at the promise of light. "Claire—not all of it!"

"All. You sha'n't touch it, nor plan it, nor do a thing but advise me. You know I can cook common things, and I'm going to learn to be a *famous* cook—so there. It's going to be my specialty. I'll do all the canning and preserving, keep my kitchen and dining-room clean, and wash the dishes."

"Too much!" cried Eleanor.

"Mama! I am a woman, as strong as you, if not as skilful and quick. Wouldn't I (she flushed a soft, sunset pink), wouldn't I do more than this in a home of my own? Now, Kathy."

"The washing and ironing is mine, and I'll keep the rest of the house clean and tend my flowers."

"I shall help with the washing," declared Eleanor firmly. "It's too heavy for you, Kathy, even with the machine. But that doesn't give me anything to do but the sewing—"

"And mending."

"And milking and churning."



"The girls had helped, of course"

"And little chicks."

They all spoke together and all laughed, though Eleanor's was rather shaky. "Good!" exulted Cecile. "Maybe I'll get my blue lawn made, now."

"Girls," asked Eleanor wonderingly, "is it possible that I can begin that to-morrow afternoon?"

"And I'll feed the chicks, so I can stay in the front room till supper is all ready, like Miss Field does when she sews out," laughed Cecile delightedly.

"That's going to be Mama's hardest job," said shrewd Claire; "to keep her hands at home and let us run our own departments. Poor dear, she has carried them all on her shoulders so long!"

"No, I don't think it will be hard. It would have been a struggle a year ago; I didn't realize where I was getting. But I touched bottom to-day. I can let you alone and be thankful, now!"

"Do just that, then, and watch this glorious sunset while I put the clothes to soak," cried Kathy.

"Thank goodness, I don't have to help," teased Claire.

"Thank goodness, we can wash in peace and sit down to a ready-made dinner to-morrow!"

"I'll set the table for you to-morrow, Claire; and I'm going in to help you pump water, Kathy," said Cecile.

"Come along then, Blessing," and Kathy started for the house. Claire only waited to pick a handful of sweet alyssum for the table before she followed to set out lunch. They left Eleanor Ward staring into the rose and golden west and whispering, "Thank Thee! Thank Thee! And help me to take and keep this new understanding lovingly, as I have always lovingly pushed it away with both hands!" And the sun set on the old order of things to rise on the new.

Motherhood

By Cora A. Matson Dolson

THE window lattice opens wide,
And her who last year was a bride
I see within the lamplight's ray;
While, to a willow rocker's sway,
Floats from her lips a low-keyed tune
With such soft words as mothers croon
When rising star and gray-hung skies
Bring round the hour for lullabies.

O tender tie of mother-land,
Soft tune that all hearts understand!
What woman in the whole earth wide,
Breasting alone life's maddening tide,
Whatever gem those waves might bring,
Would not more prize the wedding ring,
And give life's best if give she could
For this sweet trust of motherhood!

Laying the Dolls Away

By Florence Jones Hadley

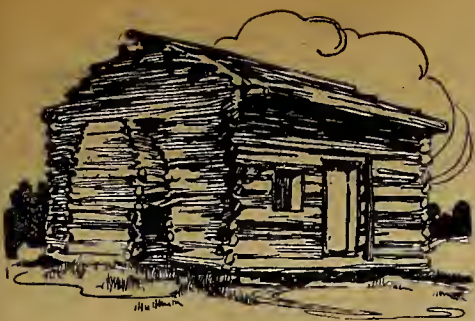
WHAT is it, dear heart? Too big for dolls?
Is that what the wise folks say?
You must say good-by to your childhood friends,

For you're twelve years old to-day?
The dear little lady with flaxen hair,
And the darling with black eyes bright,
And, dearest of all, the "raggedy" doll
Must be hidden away from sight?

Ah, dear little girl, I know, I know,
For the very saddest day
Is the day that comes to us, one and all,
When we lay our dolls away.
The beautiful doll of our innocence,
And the white-robed doll, named Truth,
And, saddest of all, the "raggedy" doll—
The unquestioning faith of youth!



"And Claire sat before her and listened with her hands in her lap"



The Lincoln log cabin

Six Years of a Life

By Katherine L. Thomas

AT THE time when begins our little tale, marvelous but true, deep in the heart of a forest, through which runs a thread of a path, used more frequently by wild animals than by the settlers scattered round about, stands a forlorn hovel, scarcely deserving the name of cabin. There are large cracks in what pretends to be the roof, there are great "chinks" in the walls through which the rains and the cruel snows and winds come at will, there is no floor save the beaten earth. At one end is a large fireplace, on the hearth of which rests a "skillet and lid" and a rude kettle, which, with a very few pieces of earthenware, comprise the utensils in which the food is cooked and also out of which it is eaten. Standing about the room are a rude bench or two, a still ruder table and a loom, more crudely constructed still, if that be possible, evidently the only article contributed by the "carpenter" husband toward the "furnishing" of the "home." Even the bed is just round forks driven in the earth. Poles are laid beneath a home-woven "tick" filled with dried wild grass and forest leaves.

It is the eleventh of February, 1809. The only adult occupant of the cabin is a tall, slender woman, beautiful almost beyond belief, with dark-brown hair, and hazel eyes that fairly scintillate with brilliancy. She has a broad forehead indicating a rare intellect, and a profoundly melancholy look, that told to the pitying few who cared to know how keenly she felt the deplorable conditions under which she was compelled to exist.

Twenty-nine years before, in a far-away Virginia home of culture and refinement, though not of wealth, this woman had been born. While she was still an infant, her father died. In a few years her mother married again, but her mother's sister, with whom she had made her home after the death of her father and until her mother's remarriage, having no children of her own, and having become very much attached to the beautiful little girl, prevailed upon the mother to let the little one remain with her. The step-father, being nothing loath to escape clothing, feeding and educating a child not his own, the little one remained at the home of her aunt, receiving all the care and affection that a child of her own would have been given. Twenty years later she and they removed to Kentucky. They settled in what is now the famous bluegrass section, and while visiting another uncle, a brother of her father, who resided in the "pennyrile" region, she met and was wooed and won by a young carpenter in her uncle's employ. A year later, while visiting a girlhood friend in still another county, the twain were married. Strangely assorted pair! She the embodiment of culture and refinement as known in those pioneer days, he not even knowing the letters of the alphabet, until taught by the young bride after their marriage.

But he was strong and handsome and a good "story-teller," so good, in fact, that he had deceived the innocent girl as to his ability either to make or maintain a home. Wisdom seldom accompanies love. Cupid's deadly arrows are quite as often deadly errors. So these two were married and began home-keeping in wretchedness and poverty beyond belief, and ten months later a girl baby was born, to whom was given much of the good looks of the father and of the beauty of the mother.

Tiring of an employment in which he was expected to work, the young husband and father gave up his position in the carpenter shop of his wife's uncle and removed eighteen miles south, out into the virgin forest, where this hovel had been erected, presumably by hunters who has passed one or more winters there. The only redeeming feature of the dreary spot was Rock Spring, the waters of which were destined to be drank in after years by tens of thousands of pilgrims journeying far, only to stand for a few moments on the spot where one of the earth's great ones took his first steps. And the same waters were to be used at the christening of some of the greatest ships of our nation, by those believing the crystal water more appropriate for the purpose than that liquor which "biteth like a serpent and stingeth like an adder."

That wintry day in February was such a day as can be met with only in this mysterious "dark and bloody ground," where the weather is as variable as the disposition of her people, to-day balmy, like unto breath from Ceylon's isle, to-night like the furies of Hades turned loose, and to-morrow like the frigid zone. The young wife stands in the door of the hovel alone, except for the toddling baby girl, who clings to her scant skirts. The husband has been away for several days. He has gone to the town eighteen miles distant to sell some cloth that she has woven and with the price to purchase some badly needed necessities of life. One of his very rare industrious spells coming over him, he has remained to do a job of work that is offered him, and with that blind faith in Providence, which, with his shiftlessness, is characteristic of him, he had left this frail woman alone, at this time of all times, as if feeling that something that was expected to happen could not

occur in his absence! Perhaps he does not care to face the scorn and contempt that the women who would be present on the expected occasion would feel, and what those women of pioneer days felt they were apt to express with no mincing of words or smoothing over. He may have shrunk from their remarks when they should learn the empty condition of the larder and the pitiful attempts which were the only ones possible for the little woman to make toward the clothing of the expected guest. He was doubtless anxious to escape the "wrath to come" and perhaps had purposely and weakly absented himself. Be that as it may, he was gone, and in going had left scarcely any food in the home. As he had made no mention of the fact that he would not make an immediate return, the wife was left to wonder whether or not he had met with an accidental death, or had been attacked by the wild beasts, then so numerous. She was anxious; but knowing the irresponsibilities of his character, his safety was probably not the chief of her troubles. But what grief and anguish it must have cost the sensitive heart to think that he, who had sworn before one of God's holy ministers to love and cherish her, could leave her alone at this time. Leave her alone he did, however. That fact stands out black, and will as long as our history shall be read by men. On that scroll shall be revealed on the day of judgment this, with the other acts of this man's life, with your life and mine, and all the other acts of all other people of all times for all eternity.

But anxiously the woman scans the faint spot of sky

came a lull in the storm, she heard, or seemed to hear, the terrified cries of the forest driven desperate by the intense severity of the storm. These fearful things strike terror to the timid woman's heart.

Sense, if you can, you readers who are used to nurses' and physicians' care, and to sanitation and ventilation, the condition of this delicate woman, alone except for the sleeping babe, deserted alike apparently by the husband and by the Father in Heaven that has said that even the fall of a sparrow is noted, and that the hairs of our heads are numbered. But there is something beyond storm and loneliness and wild beasts. Here, without food in the home, the nearest neighbor two miles away and at this particular time, two miles might as well have been on the other side of the earth, this refined woman entered into the pangs of travail and suffered throughout the long, long night, reminding her that God has said that one day can be "like unto a thousand years." The rain turned into sleet and the sleet into snow, all of it alike finding its way into the cabin through the cracks and chinks. The anguished woman managed somehow to kindle a fire with the coals that were always kept alive in the fireplace, with the wood that she had gathered in the day before. Thus she kept herself and little one from freezing. When at last the terrible night had passed, as all nights will, some like the lightning's flash and others with the slowness of the ages, she managed to feed the little girl with the last remaining crust; and then through the terrible hours of that never-to-be-forgotten morning

she suffered on, suffering all the more intensely because of the cold, which had come on bitterly after the unusual warmth.

She knew that she and the child must both perish unless help came quickly. That cabin is to be preserved for all time in its temple of granite, but, I wonder, can any who visit it ever understand anything of the anguished prayers that ascended from that woman's heart on that day? Can anyone but He who had passed through the experience in the Garden of Gethsemane ever know of the awfulness, the terrible-ness, of it all?

In another home far different from this hovel, although containing none of the luxuries of the present day, nor of those then in vogue in the older settled states, but for all that a home as good as any of the houses round about, a good wife found that she had let the meal-chest become empty. Her husband was also from home visiting his brother some distance away. The man of the house, then, was a sixteen-year-old son, eldest of the seven children. If the good man had been there, in view of the intense cold which had followed the rain of the preceding night, he would doubtless have gone to a neighbor and borrowed flour enough to have lasted until the weather moderated. But the boy, with the adventuresome eagerness of sixteen, was only too willing to undertake the trip to the old grist-mill down on South Fork, six miles away. So, fortified against the cold by three suits of homespun, a great bearskin coat that had been his grandfather's, two pairs of knitted yarn socks, a pair of his father's high boots and a yarn "comfortable" around his head, and over all a fur cap, he started to mill with his "turn of corn." It was about the middle of the morning, but, owing to the trees that had been felled across the road by the mighty wind of the night before and the coat of sleet under the snow, the footing for the old gray mule was so unsafe that he made slow progress. The cold was so intense that he had had to stop at the home of a settler more than once to warm himself, so it was after midday when he approached the little cabin in the woods.

Right glad he is to see the cabin come into view, as he is well-nigh frozen. Also he is nothing loath to stop and listen to

some of the marvelous tales that the shiftless carpenter was wont to weave in his fantastic way for the edification of any audience as appreciative as a boy of his age. But hark! Why those moans and groans mingled with the piteous wails of the little girl? For an instant the boy stands in fear and amazement. Then, rushing up, he knocks at the door. Receiving no answer save the wails of the babe, he cries out, "What is the matter?" I wonder if the harmony of the angel band when it comes to the River of Death to meet the spirit of the suffering woman when she passes on, will sound any sweeter to her than this human voice at this time? She replies that she is dying, and begs him to go for the wife of the nearest neighbor two miles away. Understanding only that the woman is dying in that dreary forest alone, the boy forgets his well-nigh frozen condition, and hastens on over and over and around the fallen trees until he reaches the neighbor's house, and telling his tale, falls exhausted. The wife of the neighbor understands, and calling one or two other women, hastens to the lone cabin. Inured to hardships as these women were, they were unprepared for the

[CONCLUDED PAGE 42]



that shows above the hovel between the tree-tops, as in the distance she hears the deep rumble of thunder, which at this time of year foretells a storm of unusual severity. More anxiously she gazes along the thread-like path, but all that rewards her vision is a real or fancied glimpse of wild beasts rushing back and forth, uneasy at the approaching storm. With a sigh, she catches up the little girl in her arms and rushes down the hill to the spring with a rude bucket to fetch water for herself and little one. Back up the hill she struggles with the heavy burden of water and still heavier child. She reaches the door as the first big drops begin to fall. With a last hopeless look down the path, she closes the door and barricades it as best she may with the sticks kept for that purpose, and, as an extra precaution, piles the rude table against it.

As the little one's head begins to nod, she divides in two parts the last crusts of corn-bread, all of the food there is in the house, and giving one part to the baby, carefully puts the other away. She hears the tiny little prayer, she sings one of the songs once sung to herself in the long ago in far-away Virginia, where someone loved and cared for her, and finally succeeds in getting the baby to sleep before the storm breaks in its awful fury. Furious it is in truth, as the terrible thunder rolls and the fearful lightnings flash and the wind in its terrific power brings down the giants of the forest that have stood the storms of centuries. The hail and rain beat through the cracks in the roof and the crevices in the walls, until it was a hard matter for the mother to protect from it the child, whom God in His mercy permitted to sleep. When for a moment there



The Lincoln Memorial

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FARM AND FIRESIDE is published especially to meet the wants of the farm and farm home. Its contributors are recruited from practical farmers: persons of actual experience with farm work. Its Editor was born and raised on the farm and is a successful farmer. FARM AND FIRESIDE is striving honestly and fearlessly to promote the interests of all farm people.

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It is impossible in this space to tell of all the special features that will be in FARM AND FIRESIDE this next year. We can merely mention a few of them—such as The Farmer's Lobby, which will keep you in close touch with the great political questions and the coming Presidential campaign, and the Headwork Shop, which is chuck full of new but practical ideas. We shall run a series of big, live, interesting stories in FARM AND FIRESIDE that will bring out the better side of farm life.

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Things Worth Knowing



A Curious Plant

IN PANAMA there grows a very curious plant that is known as the sensitive plant. The power, a sort of self-protection, that it possesses is amazing and almost uncanny. The plant itself is a very attractive beautiful green in color, while the clustering sprays of flowers are simply lovely. The moment a stalk is touched the plants begin to shrink and wither away, while the leaves change color as if turning pale. The sensation one feels on looking down at the beautiful flower he has just picked, when he sees only a shriveled brownish weed and a bunch of withered leaves, is appalling! It is awful! Panic at once seizes the novice, and he usually rushes back to camp or friends, fearing for his own sanity and thinking he has suffered an attack of Panama fever. EVELYN SADLER.

Japanese Mushrooms

IN MANY countries the mushroom is a decidedly valuable product. We usually think of raising them in cellars or other dark places and can hardly picture them as growing in any other place; yet the Japanese method is as peculiar as it is interesting, for with one species, known as Shiitake, experiments have been made of growing them in trees. The trees used are oak from twenty-five to thirty years of age. They are cut down in the autumn and at intervals of five or six inches gashes are cut with an ax all up and down the trunk. The trees are then hauled to little-frequented parts of the forest and left there. At the end of three years mushrooms appear in the incisions and furnish a crop which lasts the year round, those of the autumn being the most valuable. This method of raising mushrooms is probably the least troublesome in the entire world. What a vast difference between this way of doing the work and the method used in underground Paris, where the people who attend to the cultivation of the mushrooms live in a little world of their own and seldom see daylight from one week's end to another. EVELYN SADLER.

How the Rats Helped Audubon

IT IS very strange how accidents or "hard luck" things help to make men great. A good example is seen in the life of Audubon, the famous American naturalist. He had traveled for years and covered hundreds of miles, in order to get exact data and drawings of birds. He had a collection of more than two hundred drawings, or sheets of drawings, representing features distinctive of about two thousand birds,

when he awoke one morning to find that the rats had gnawed at his papers in such a way as to completely destroy all of those drawings. At first he was dismayed as he looked upon the waste scraps of his collection, then he determined to go at his work again with a new vigor and to do the work all over. He did so; the result was that he took advantage of his previous experiences and not only repaired his loss, but filled his books with drawings that were so far superior to those that he had first made that he was not at all sorry that those rats had caused him all that extra work of three years, for that was the time it took to do the work.

W. K. PUTNEY.

Some Odd Facts

SIX years after Columbus discovered America the first English cook-book was gotten up in England. It must not be thought, however, that Columbus had anything to do with it or that it had anything to say about West Indian receipts. Twelve years later cabbages were first used as food. The first forks came into use in 1220 and were considered extravagances and only for wealthy people. Strange as it may seem, sugar was not used in Europe until thirty years after forks were introduced. So one could go down a long line of foods, utensils, etc., and find a great many very surprising facts. For example, many people seem to think that ice-cream was known to the old Greeks and Latins when, as a matter of fact, it was not put into use until 1760. On the other hand, bread made from yeast was made as early as 1634. Cattle were brought to America about 1611, coffee in 1616, cauliflower in 1630 and rice not until sixty years later. Condensed milk was put on the market in 1849 and cooking-schools were first started in 1873.

BEATRICE M. PARKER.

Queer Latin

A WELL-KNOWN family paper, dated 1873, said that in London there lived a shoemaker and repairer who had an excellent education, which included a pretty thorough knowledge of Latin. He liked to make use of his Latin and often put on his shoes as he delivered them, "mens conscia recti," which means literally, "a mind conscious of right," or, shortened, "a clear conscience." Finally, he got to like his curious motto so well that he printed a neat little sign and put it up in his shop-window. Imagine his extreme amusement and disgust when another shoe-dealer, an ignorant but boastful rival a little farther down the street, placarded his window with an enormous sign which read, "We keep not only men's, but women's conscia recti."

W. K. PUTNEY.

Some New Books

And a Word About Them

FIRST Lessons in Bee-Keeping, by Thomas G. Newman, Revised by C. P. Dadant, is now for sale by the American Bee Journal, Chicago, Illinois. It relates the work of bee-keeping from start to finish, explaining all of the conveniences and methods that go toward success in this line of work. Pages, 190.

The A B C of Potato Culture, by T. B. Terry and A. I. Root, is an old and valuable practical agricultural book which has again appeared, just as before, except for a few changes made by Mr. Root. It comes at the very time when it is needed. Illustrated. Pages, 365; price, 50 cents; The A. I. Root Company, Medina, Ohio.

The Hog Book, by H. G. Dawson, tells the story of the fifty years' experience of the author. The question connected with the handling of the various breeds is treated most thoroughly. Illustrated; pages, 414; Breeder's Gazette, Chicago.

Beginnings in Agriculture, by Albert Russell Mann, is a thorough treatise for the beginner in agriculture. It combines the practical and the theoretical as applied to modern farming. Since it comes well illustrated, the points made are very clearly shown and could be adapted to pupils of varying ages. Pages, 340; price, 75 cents net; The Macmillan Company, New York.

Windmills and Wind Motors, by F. E. Powell, tells how this form of power is made and controlled. It is thoroughly practical. Illustrated; pages, 78; price, 55 cents, post-paid; Spon & Chamberlain, 125 Liberty Street, New York.

The Manual of Farm Animals, by Merritt W. Harper, discusses Horses, Cattle, Sheep and Swine. The subject suggests

a dry book, one for the student in the classroom. The reverse is true however, for the ideas are expressed very clearly. Illustrated; pages, 545; price, \$2.00 net; The Macmillan Company, 66 Fifth Avenue, New York.

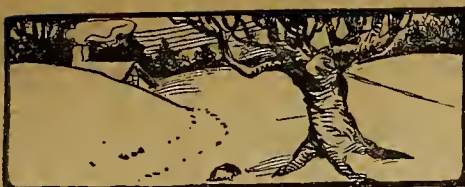
The Conservation of Natural Resources in the United States, by Charles R. Van Hise. If there is any other book in which the whole gospel of conservation is so well or so completely stated, we do not know the fact. Before he became the president of the University of Wisconsin, Doctor Van Hise had won eminence as a scientist, and with the group of which the late Prof. N. S. Shaler was, perhaps, most prominent, Van Hise was a conservationist before most of us had ever heard the word. The man who really desires to attain grasp of the subject cannot do better than read this volume. Macmillan Company, New York; \$2.00.

The Farm and Garden Rule Book, by Dean Liberty H. Bailey of Cornell. A book of nearly six hundred pages, as full of information useful to farmers as an egg of meat. No school in which agricultural subjects are taught should be without it—and no farmer who reads will regret its price if he buys it. Macmillan; \$2.00.

New Bulletins

"Feeding Farm Work Horses." Illinois Experiment Station. A fine bulletin showing the results of actual feeding tests. No. 150.

"Feeding Dairy Cows." A very valuable bulletin (No. 152, Illinois), which constitutes a handy manual for the dairy farmer—tables, planting schemes and able, practical explanations.



Sunday Reading



The Power of Purpose

By R. H. Aldrich

THE farmhouse is not a home if the householder's heart is elsewhere. Contentment is the prime requisite of usefulness and happiness. The main path to contentment runs up to a vision of a broad and mighty purpose, the burning determination to create an agricultural estate that shall be his own; not simply the acres clear of encumbrance, but a farm that has a character individual to itself; having engraven and stamped upon it the signs of the personality of its creator.

The farm is not seen as it is, if not seen as a creation and himself as its creator. What is the chief inspiration of the worker? The ability to produce. The power to produce something needed, something useful, beautiful, and the privilege, unmolested, to retain it or receive in exchange its equivalent value.

The creations you may find in the shop of a craftsman reveal forethought, plans, rules, skill, care, taste, variations, originality, love of the beautiful as well as the useful, in short, intelligence, and increasing with his years. Admiration and praise are bestowed on him.

Likewise, the cultivator may create in a broader and higher realm; not fixed forms as are by lathe and chisel from wood, or metal, plaster or marble, but intelligently produce living organisms, each growing from its germ up to the ordained likeness of its kind, varied and improved in form and color, imbued with native beauty and useful substance, endowed with the mystery, LIFE, and its repetition, by the thought of the first great Giver of Life, the ever-existent Thought that sustains all thought, all life!

Then may not every farm be regarded as a creation and as being worthy of the best setting and the most orderly operations that its creator by his mighty power of purpose, his study, his intelligence, can ordain and accomplish? Be inspired by this vision to go on and develop the most beautiful forms, the richest substances for human utility? Be an artist in farm art? Should not the cultivator love his art for its own purity and uplift of life? Of the earth earthy, need he be sordid? No! Every acre of Mother Earth is her nursing breast for bulb or seed or scion! Salute her! She accepts your offering and responds as to the caress of her child! Every acre is a nature-shop with the heart of a man added, with the mind of high purpose a creator occupies.

Even farming can be spiritual. The farmer can add the spiritual plane and there enjoy the pure air of heaven here below and its wider view. Paul stated the law: "First the natural, then that which is spiritual." Life's purpose is incomplete and unfulfilled without the two. "Paul planted, Apollos watered, but God gave the increase." "Ye are God's tilled ground."

Doing God's Will

By Anne Hetherington

THERE are thousands of people who really believe they are living godlike lives, that they are fulfilling the Master's will and helping others as He would have them.

Have you ever thought of the way in which God bade His followers go into the world preaching the gospel, and said, "As my Father hath sent me, so send I you"? Do you realize in just what manner God sent His Son into the world to save sinners? He came in great humility, and was born of an humble virgin in low estate. There was no blare of trumpets nor sounding of bells when the Son of God came to earth.

Then after a life of quietness and seclusion, when he went out to fulfil His Father's commands, He did not travel in state with servants and soldiers to do His bidding. He went out alone and penniless, and selected His companions from all stations in life.

Do you suppose there are many followers of His to-day who would be willing to do His work in the same manner as He accomplished it? Would many people possessed of His wonderful gifts and powers be willing to walk in paths of humility? Would they bear others' burdens without a murmur, carry the cross and finally give up their lives for those they love, but love not them?

There are any number of women who will take up one branch of church-work or another, but usually with the understanding that they are to be on the active committees. They want to visit the poor in a "Lady Bountiful" way and dispense

the charity of the organization in a graceful but gracious manner. Then, too, their names must be connected with this special work. Very often they would not care to nurse sick babies, to prepare meals in a poor home, or to sacrifice their pleasures to make clothes for little folks whose mothers are working hard for a mere existence. And yet these would be Christ-like actions: keeping the needy in their affliction and caring tenderly for His little ones.

There are men, too, good earnest men, who will undertake to manage some branch of church-work to improve its financial condition, but when they have carefully considered the matter and find a lack of funds in the treasury, they realize what an amount of money and time it would take to finance the project, and decide it is not practical and drop the matter. They are not willing to go into anything that cries "failure and sacrifice" at the beginning.

Such men will serve on committees to visit a hospital or a public institution, but go with the idea of instructing and overseeing the work of others—directing, not suggesting. They seldom have any intention of really helping the poor unfortunate that are sent from these institutions only half able to work and thoroughly disheartened.

Now these men and women would work in God's vineyard in just the way the Heavenly Father has commanded, if they were only brought to know that their ways were wrong and they were not walking humbly before God, nor doing His work in just the right spirit. They would be godlike men and women, because they have it in their hearts to do good work.

If you would do God's will, be humble, be kind and loving one to another, and do for your fellow man just as you feel that God Himself would do for them in a material way if He were here on earth to minister to their wants and ours.

The Best Crop

By E. L. Vincent

A MAN may be able to grow the grandest of crops of corn and wheat, but if his crop of manhood be short, he is a failure. Don't die at the top. Dig around your tree of life, water it, and feed it with the most up-to-date thoughts, and keep it always trimmed up in good shape. Anything but a dead farmer!

Lots of men think they can lead armies and nations, but they can't even lead a calf around the yard of a muddy morning without spoiling a five-dollar pair of pants and getting mad as hatters.

Of all men, farmers must think of the morrow. Not to worry about what it will bring, but to plan for it, to lay the foundation for its work and to determine that it shall be the best ever.

The farmer who does his work so that the man who comes after him will make a bigger success than he would otherwise have done has made a grand success, even if he have not laid up a dollar.

The man who lives right when it shines will have no trouble with the days that are rainy.

There is a joy in always keeping cheery that reaches all over the neighborhood. No man can live a good, clean, happy life and not have that life reproduced in every man he touches.

You can't learn how to live out of a book; you must do it by just living.

Help your young folks to believe in themselves. You may save a million dollars for them; you may leave them the best and the biggest farm in the township, but if you have not taught them the glorious art of doing for themselves, you have made them beggars.

The world doesn't care a snap why you failed. It is thundering at your door to know how you have gotten ahead of the rest.

Are you looking for success this year? You'll find it.

If you want to be happy, believe in men.

A Thought for a Day

IF I can let into some soul a little light,
If I some pathway dark and drear can
render bright,

If I to one in gloom can show the sunny
side,

Though no reward I win, I shall be
satisfied.

The Power of Example

By Charles Henry Prather

THE Hon. William E. Gladstone, England's grand old man, scholar and statesman, was fond of telling the following story on himself, which illustrates the power of example:

"I was a very little fellow," he says, "still wearing kilts, when I was one day favored with an invitation to dine with Lord Beaconsfield. Just as I was ready to start to my friend's home, father placed his hand on my head caressingly and said: 'My son, be good, and when at Lord Beaconsfield's board, observe closely and do exactly as he does.' I promised to obey my father's instructions. There were a number of other guests at that dinner that memorable day, but I paid but little attention to anyone except my host. I watched his every movement closely, bent on keeping my promise to my father. All of the guests had been served, when Lord Beaconsfield looked up from his plate and sneezed several times. I, too, looked up from my plate and made a great effort to sneeze several times. No comment was made, and the dinner went on without interruption, until Lord Beaconsfield said, 'A beastly draft has given me a cold,' and asked his valet to close the door that was open near his lordship. All of this time I was keeping an eye on Lord Beaconsfield's movements and repeated his words, 'A beastly draft has given me a cold,' and then I gave orders to the valet to close the door. I shall never forget the astonished looks of the guests at that dinner-party. Lord Beaconsfield frowned and gave me a searching look that made me shiver. Then in a stern voice he asked: 'William, are you mocking me?'"

"I stammered out: 'No, your lordship.' 'Well then, William, I want you to explain your conduct.'"

"I was just obeying my father, sir," I replied. 'He told me to do exactly like you.'"

"Lord Beaconsfield and his guests laughed heartily. Then he remarked, 'I have this day been taught an example lesson: always refrain from doing that which I would not have others do.' To me he gave this advice: 'William, my boy, never, never do anything because other people do it, unless you are certain it is right and well-pleasing in the sight of your Heavenly Father.'"

The Gratitude Book

By Sidney Morris

IT is very much easier to remember an injury than a benefit. Haven't you noticed it? And you can forget forty-nine benefits while remembering some small injury, often imaginary, too.

A very dear and sweet woman of my acquaintance has tried a scheme which seems worth describing, even if all of us cannot find time to carry it out. She has what she calls a "Gratitude Book." It is ruled up for every day in the year. On looking over her shoulder you would see entries such as this:

"Dec. 13, 1910—Mrs. Northrup sent me a jar of jelly because Sister Martha told her I wasn't well."

"Dec. 14th—Little James, who lives next door, met me on the sidewalk and stopped to say, 'I love you because you can spin a top better'n the rest of the boys.'"

"Dec. 20th—Helen offered to go to town and buy all my groceries, because I was too rushed with Margaret's dress, for the Christmas party," and so on.

And she tells me she tries to remember each of these anniversaries with some special gift as the days roll around. If the friend is far away, she sends a short note, never mentioning the reason for it, but bearing a kind word or two tucked into the envelope. Sometimes it's a book, or a posy, or an offer of an hour's work with the stocking-darning.

When she confessed all this to me, I exclaimed, "But how do you find time and money for all this?"

"I'll answer the money question first," she replied. "It costs very little. One year I kept an account, and it cost me \$4.17. Wasn't that a small bill against all the things I must do in a year to show that I'm grateful?"

"Then as to time! Well, I'll have to wander a bit in my answer before we come to that. I used to possess a very morose spirit. I saw injuries in so many innocent things that people said and did

that my life was on the verge of ruin. In fact, I carried the thing so far that on one dreadful day it almost put an end to my married life and threatened to lose me my own dear Bob. I pulled myself together and vowed, then and there, first, never to suspect people of injury when the circumstantial evidence was not very clear; second, to forget a real injury as soon as possible; third, to remember some kindness shown me by someone whenever I began to feel despondent and blue.

"Having a short memory, my 'Gratitude Book' was the result. As to finding time to remember gratefully all the year's kindnesses and to show my appreciation, why, do you know, it takes less time to do that than I spent formerly in moping and feeling glum over the petty trials and human weaknesses that everyone is bound to stumble upon while on the Highway of Life? In other words, my former method didn't pay; this one returns me yearly dividends of one hundred per cent. paid in pure gold. Worth it? It's the finest asset I possess," and she lovingly patted the Gratitude Book lying on the table.

Her confession set me thinking. I can remember three distinct times that Mary Hepworth, who lives next door to me, "riled" me by her abrupt way of answering me when I stopped to speak to her as she hung out her clothes. Perhaps she was busy. But then, deep down in my heart I have remembered likewise the time when Jim came home, threatened with pneumonia, and Mary Hepworth came in and tended house for me a whole week, while I waited on Jim. That was three years ago!

Well, I couldn't help thinking that my friend's Gratitude Book is a pretty cheerful thing to have around the house.

The Man Who is Lost

By William J. Burtscher

LOSTNESS consists in a thing being out of its intended place. Christ told of a sheep that was lost, because it was out of the fold; a piece of silver that was lost, because it was out of the purse, and a son who was lost, because he was out of the home away from the care of his father.

Every man's mission on earth is to fill a place of usefulness and helpfulness to the community and commonwealth in which he lives. If he doesn't occupy that place, he is lost.

The idle man is lost, because he is away from his work. When the community needs his help, he cannot be found. There are poor men who are idle, and also rich men who are idle. Both are lost.

The ignorant man is lost, because he doesn't know enough to fill his place. To be of service to his country, a man must be at least half-way intelligent.

The man in jail is lost, because he cannot get to his place to fill it. The harvest may be going to ruin for want of his help. He cannot be found.

The very conservative man who is opposed to progress is lost, because he cannot keep up with his place. The old way of doing things will not do for a new age. The world moves and men must move to keep apace.

The selfish man is lost, because he is interested alone in himself. When the welfare of his neighbor calls, he cannot be found.

Is there then not a world of meaning in Christ's declaration that he came to seek and save that which is lost? He is looking for the idle man, as there is much for him to do; He is looking for the ignorant man, as there is much for him to know; He is looking for the imprisoned man, with a view of getting him into his proper place in society and keeping him there; He is looking for the conservative man, as he is needed to bring about needed improvements, and he is looking for the selfish man, to show him that there are other people in the world beside himself who are worthy of his attention.

The Foot-Path to Peace

TO BE glad of life, because it gives you the chance to love and to work and to play and to look up at the stars; to be satisfied with your possessions, but not contented with yourself until you have made the best of them; to despise nothing in the world except falsehood and meanness; and to fear nothing except cowardice; to be governed by your admirations rather than by your disgusts; to covet nothing that is your neighbor's except his kindness of heart and gentleness of manners; to think seldom of your enemies, often of your friends, and every day of Christ; and to spend as much time as you can, with body and with spirit, in God's out of doors—these are little guide-posts on the foot-path to peace."

HENRY VAN DYKE.



The Road to Happiness

A Story of the Common Lot

By Adelaide Stedman

Author of "Poor Relations," "Miracle," "Intellectual Miss Clarendon," Etc.

MR. JOSEPH TAYLOR is the father of the heroine of the story. He has always lived beyond his means, and rather than endure the disgrace of a financial crash disappeared.

MRS. JOSEPH TAYLOR, his wife, a society parasite, who is quite helpless without riches.

FRANCES TAYLOR, the heroine of the story, who is in love with Norman Norris, even after breaking her engagement to him. She is wooed by Jacob Jordan, who offers her financial aid in her troubles.

CAROLINE SANDFORD, a middle-aged, unmarried woman, who helps Frances in her financial straits by starting her as boarding-house mistress in a big house in a fashionable neighborhood, but in which business Frances fails.

NORMAN NORRIS, a country boy, who has succeeded as a lawyer in New York and who loves Frances, but who broke his engagement to her because of her seemingly frivolous nature. He has never ceased to love her, although his love, he thinks, is hopeless.

JACOB JORDAN, a member of a wealthy and aristocratic New York family, who is madly in love with Frances and who is just as willing to marry her after her misfortune as before her financial loss. He takes a malicious delight in her troubles, hoping thereby to strengthen his power over her.

MR. WEST, Mr. Norris' head clerk, a man of fine and gentle nature, who has fallen in love with Caroline because of her kindly disposition and her efforts to relieve distress.

Part VII.—Chapter XV.

AS NORMAN and Caroline hurried down to the cheap section of the city near the great wharves, where Mr. Taylor lay hiding, both were oppressed by the curious sense of detachment from the ordinary trivialities of life which comes to people bound on momentous errands. They spoke very little, and then only in quick, nervous phrases which betrayed their mental unrest. They realized that their actions during the next few hours were bound to influence several lives dear to them.

When they finally arrived at the given address, an ugly old house in a neighborhood swarming with children, and where slatternly women leaned from their windows the day through, finding an unexplainable satisfaction in watching the unending procession of toil-worn humanity.

Norman pulled the old-fashioned bell imperatively and heard it respond with a jangling summons. In a moment a little boy of perhaps six years opened the door and stood staring at them with unabashed, child-like curiosity.

"Does Mr. Arthur Scott live here?" Norman questioned anxiously.

The child nodded.

"We should like to see him," Caroline ventured. "Is he still very ill?"

The little boy smiled suddenly, as at the memory of something delightfully humorous, and announced:

"He's much better," he said. "I love him well, 'cause all he needed was loving! And he gave me a nickel!"

Caroline and Norman looked at each other and slowly Caroline's eyes filled with tears.

"That was good medicine, dear," she faltered. "May we go up-stairs?"

With returned gravity, the child nodded again, and, turning, led the way, and the short, sturdy legs with which he propelled himself up the steep steps showed none of the deprivation of poverty.

At the top of the stairs they paused once more, Norman and Caroline conscious of a sudden hesitancy.

"Is your mother at home?" Miss Sandford questioned, smiling gently into the upturned little face regarding her so intently.

"Not now," the child answered, evidently marveling at such ignorance. "She works."

Then again there was the silence of hesitation, until Caroline said, "Perhaps I had better—go in alone—first. I don't think he will mind seeing—a woman—quite so much."

Norman assented almost eagerly, his manlike dread of a scene relieved.

Then again came the awkward, unexplainable pause, but this time the child ended it definitely.

"The sick gem'mun's in there," he answered, suggestively pointing down the long dark hall, so evidently mystified by the visitor's strange conduct that Norman, more embarrassed than ever, darted into a sitting-room near which they were standing, while Caroline hurried down the corridor, the little boy at her heels.

"Archie's comin', too!" he said positively, but she scarcely heard him, and was hardly conscious of his presence as she rapped at the indicated door, then waited until a weak, querulous voice called, "Come." Then a little hand slipped into hers, and she pressed it subconsciously, welcoming the sense of companionship, and, with the child pressing close to her, entered the room.

In one quick glance she saw its cheap barrenness, even as her eyes fastened on Mr. Taylor sitting propped up with pillows on the bed, a writing-pad before him, a pen in his hand. His face showed signs of suffering.



"Caroline approached the bed and seated herself on a cane-bottomed chair beside it"

"Joseph!" she whispered tensely, as he stared at her with an unbelieving haggard look. Months of mental agony showed in his dull eyes and spoke in his tremulous voice as he exclaimed with painful eagerness:

"Caroline! You!" All the hungry homesickness of a lifelong wanderer was in the words; then instantly his joy at seeing her vanished in the recollection of what stood between them.

"How did you find me?" he questioned, his eyes falling in shame.

With quick, uneven steps, Caroline approached the bed and seated herself on a cane-bottomed chair beside it, still regarding the wan, suffering face before her.

"I knew you would come," he went on feverishly. "It's fate! You were bound to be the one who discovered my contemptible desertion! You know me!"

The woman beside him bent lower, and with her face hidden from him explained her coming in a few brief phrases, not mentioning Norman however, as that portion of her story needed more detailed telling, and with the unerring intuition of sympathy she divined the question he was tensely waiting to hear. It had to be put, so she queried gently, "Tell me, where have you been?"

Mr. Taylor shrank further down among his coverings in silent agony, so Caroline hurried on brokenly, "I've not come as your judge, but as your friend. I've come to take you home."

Tears of combined weakness and gratitude sprang into Mr. Taylor's eyes as he laughed shakily, the red of excitement leaping into his hollow cheeks.

"Where is that, Caroline?"

"Where your wife and daughter are," she answered slowly, wondering just how much he knew of the present situation.

He shook his head drearily and murmured, a pitiful desire for contradiction running through every word, "They won't want me now that I haven't any money. I was only a human check-book to them." He paused, then, as Caroline only shook her head, he went on, suddenly demanding, "They don't know—already?"

"What?" Caroline questioned, as though dreading to receive an answer.

Mr. Taylor turned ashen. "I—can't tell you the whole story—I've just been through it once." He fingered two closely written sheets of paper lying on his lap; then with a spasmodic gesture held them out to her, murmuring, "Read this—then you'll know."

Caroline took the proffered sheets and read on the first line, "Dear Laura."

"To your wife!" she exclaimed. "Why, I can't read her letter!"

"I want you to," he insisted. "It's your right. You should know what I've suffered. It's retribution! I don't suppose there's much in it you don't already suspect."

For a moment Caroline breathed deeply and closed her eyes as though striving to shut out the memories he

was trying to evoke, then opening them she saw the terrible strain he was laboring under, the terrible exhaustion he was suffering from; she saw the feverish anxiety with which he regarded her, and she feared the consequences of argument.

"Very well," she conceded reluctantly, "I'll read the letter if you wish it."

The man nodded vehemently, then sank back with an exhausted sigh as Caroline took up the pages and began to read.

DEAR LAURA—

This is not a message from the dead, but perhaps before you finish reading it, you will wish it were!

I may as well tell you the facts briefly, and if they sound bitter, remember what I have suffered in living the things I now write.

I need not recall to your memory the scene which occurred just before I disappeared. It was the climax of the huge mistake our mode of living has always been. I am not blaming you or Frances now, because during these months of self-contempt I have learned that everything that occurred could only have happened to a man as contemptibly weak as I was.

But that night I didn't moralize. I think I was a little mad from worry and nerve-strain, from the knowledge that my twenty years of grinding work, out of which I never had seemed to get any pleasure, was only going to result in failure.

All I wanted was a little help, a little sympathy, but you and Frances both seemed to feel that everything was my fault! Frances' broken engagement was the last straw! It was too much!

For hours I sat in my office brooding over affairs—trying to find courage to face the ruin I saw impending. I couldn't find it alone!

I wrote two or three letters to the men to whom I had suggested Norman's aid, striving to find means of saving Frances humiliation. I knew she would not write to Norman while he could rightfully suspect her of mercenary motives, and I couldn't bear the thought of parting them. However, I could do little or nothing!

Those were black hours for me, and at their end I decided—to shirk! You and Frances had had all the pleasure

out of the money. I told myself vengefully, now you could bear its responsibilities. I wanted you to know how it felt to be on the financial rack! God forgive me, but I tell you I was a little mad!

I went down to one of my boats just ready to weigh anchor for a trip around the cape, got aboard and bound the captain to silence. After that I was out of communication with land for two months!

I can never tell you what I suffered! I shall always hate the water after this! I regained my moral sanity within a week, and after that—well, it's a wonder I didn't go truly mad with anxiety and remorse.

I cabled you from the cape, but received no reply. What did that mean? Are you still unforgiving?

You don't know how I long to see you both, but I can't go back to reproaches, I have reached the limit of human endurance! But if you can forget the past and begin again with me, a new and better life for both of us may be beginning—

Here the letter ended, unfinished.

Caroline's face had brightened at the illuminating explanation of Frances' conduct, but throughout the letter she found it hard to read because of the tears of pity in her eyes. When she looked up at the end, her voice failed her, but Mr. Taylor understood the commiseration of her look.

"If you can be sorry for me, they will be," he murmured. A thousand questions rushed to his lips, Was Frances married? Had Norman been entangled in their financial affairs? and so forth, but he dared not ask them, dreading to receive adverse answers, so he merely begged: "You take the letter to Laura! You're the only person in the world who can influence her—and Frances!"

Miss Sandford hesitated, thinking of Norman, but after a moment she nodded her head.

"I'll finish it now," he suggested feverishly, and Caroline assented, helping him to accomplish his task, for she realized that he would have no peace until the suspense was over.

His hand trembled with fatigue as it traveled over the paper, and Caroline, noticing it, decided to make no more revelations just then.

Then suddenly her thoughts recurred to the child who had followed her into the room, then, all unnoticed, slipped out again, and making him her excuse, she left Mr. Taylor for a moment and went in search of Norman.

She found him in the little living-room, with Archie on his lap.

His face looked tired and worn, but she smiled with unselfish happiness as she explained the situation to Norman, ending gladly, "So you see I think you have misjudged Frances; but now everything will be all right!"

The man's eyes filled with tears, the hard-wrung tears of a strong man.

"What a brute I've been!" he exclaimed remorsefully; then thoughts of the bright [CONTINUED ON PAGE 37]

The Housewife's Letter-Box

Do You Need Help?

Have you been looking for a special recipe for years? Do you need any information on household matters? And do you meet with little problems in the home that you wish someone would solve for you—someone who has had a little more experience than you? Then why not make use of YOUR OWN department and ask the questions which have been troubling you? This department has proved that the spirit of helpfulness is abroad in the land, especially among the women of the farm. That our readers have the mutual desire to help one another is evidenced by the large and prompt response we have had to the questions which are printed here monthly. There is no payment made for contributions to these columns. All answers and inquiries should be addressed to "The Housewife's Letter-Box," Farm and Fireside, Springfield, Ohio. If immediate answer is desired, it will be sent, provided a two-cent stamp is enclosed.

Questions Asked

Will someone please tell me—

How to make a nice rice pudding?
R. A., Virginia.

How to make a crocheted cap?
Mrs. A. McC., Illinois.

How to make portières of old silks and what to use for the warp?
I. W., Kansas.

How to knit zigzag or fence-row stitch used so much in knitting sweaters?
M. J. C., Iowa.

How to grate lemon-peel and what kind of grater to use?
N. A., Indiana.

Is there a substitute for grape-leaves in pickling? What causes green-tomato pickles to toughen with cooking?
Mrs. C. E., Washington.

How to make scrapple? I have lost the recipe that I had.
SUBSCRIBER, New York.

Directions for making the old-fashioned patch-work bed-quilt block called "T" block?
Mrs. F. J. N., Connecticut.

How to make Lady Baltimore cake? Please give full directions.
C. D. A., Ohio.

How to color cotton rags with butternut shucks?
Mrs. J. B. M., New York.

How to make a pretty bag for fancy work?
A. E. T., Kansas.

How to can spinach and dandelions?
Mrs. H. H., Massachusetts.

How to rid chickens of mites?
Mrs. M. M. Z., Ohio.

Questions Answered

Mrs. F. C., Iowa—If you will drop a lump of alum the size of a pea in the syrup made from granulated sugar, it will prevent its hardening.
Mrs. S. C., Ohio.

To Can Beef at Home in Cans, for Mrs. R. J. S., Ohio—Boil your meat, and cook the broth until it will jelly when cold, then can hot, same as you can fruit. You will have no trouble in keeping it in warm weather. The whole secret seems to be in having the broth so that it will jelly.
E. A. C., New York.

To Make Potato-Yeast and How to Use It in Bread-Making, for Mrs. R. B. F., New Hampshire—Take eight medium-sized potatoes, boil in one quart of water, mash in the water, add one-half cupful of flour, moistened with a little cold water. Let it just boil so as to thicken, and add one-half cupful of sugar and one-half cupful of salt. When lukewarm, add one cupful of left-over yeast or one compressed yeast-cake. Keep it in a cool place. It will keep ten days or more. Use one cupful to one quart of water, and mix bread in the usual way. (Unsigned.)

Drop Dumplings, for Mrs. S. E. P., Iowa—Two cupfuls of flour (sifted before measuring), two teaspoonfuls of baking-powder, one-half teaspoonful of salt. Sift together, and stir up with just enough milk to make a very stiff batter. Cook ten minutes, but twelve minutes if your dumplings are large, and do not raise the cover of the kettle while they are cooking.
Mrs. R. B. D. E., Colorado.

How to Can Pumpkins, for Mrs. G. H. P., Virginia—Cook until quite soft and juicy, and put up in glass or tin, the same way fruit is canned, with the cans, lids and pumpkin boiling hot. If glass is used, a little salt may be added. Anything keeps better if the lids of the jars are thoroughly boiled and put on hot. If put up in syrup-buckets, pound lids down tight and cover with wax or paraffin. I have kept pumpkin for over a year put up this way. When wanted for use, empty into granite or aluminum vessels and dry out in the oven. If, before canning, the pumpkin is cooked dry enough to use, it is very difficult to get it in the cans as hot as it should be, without air spaces, which causes it to mold.
Mrs. W. F. H., Illinois.

To Make Lemon Sponge-Cake with Yellow Icing, for Mrs. R. J. S., Ohio—Five eggs, one-half pound of loaf-sugar, the grated rind and juice of one lemon, one-fourth pound of flour. Separate the yolks from the whites. Beat the yolks and sugar together until they are very light; then add the whites after they have been whisked to a dry froth, alternately with the flour. Stir in the lemon, put the mixture in small pans, and bake.

Yellow Icing—Stir into one beaten egg enough confectioners' sugar to make it thick enough to spread nicely. Flavor with lemon to-suit taste.
Mrs. J. F. E. O., Illinois.

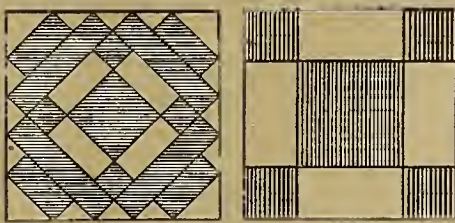
How to Use Rosin for Taking Pin-Feathers Off Ducks, for A. R., Ohio—It is the

same kind of rosin that is used in place of sealing-wax. After the feathers have been taken off, plunge the carcass in boiling water and sprinkle well with powdered rosin. Then rub off feathers and rosin. (Unsigned.)

Hair-Dressing Which Will Not Stain the Scalp, for Mrs. S. E. P., Iowa—Use a strong solution of sage tea. There is nothing better. It will darken the hair but not the scalp and promote the growth of hair.
Mrs. A. W. B., Pennsylvania.

Sweet-Potato Pie, for R. V. A., Virginia—One pint of grated raw sweet potatoes, one egg, one teacupful of sugar, one teacupful of sweet milk and a pinch of ginger. Bake in moderate oven without top crust.
Mrs. T. J. C., Oklahoma.

Below are two quilt-block patterns, both of which are called "the album quilt-block." These were contributed by Mrs. N. R. of Ohio, so Mrs. A. H., Ohio, can take her choice. Either one is attractive.



To Remove Lime Sediment from Inside of Teakettle, for A. M. H., Arizona—Boil vinegar in your kettle. It will loosen the lime and cause it to crack off. Scrape it all off. Always keep an oyster-shell or a few marbles in your kettle. The lime will form on them instead of adhering to the bottom and sides of the kettle. Of course, the shells or marbles should be removed very frequently.

Nut Salad, for M. J. C., Ohio—I do not know just to which nut salad you refer, but a very good one is made with three or four apples and a quarter pound of shelled black walnuts. Peel and cut the apples into small pieces, and chop nuts very fine. Make a sweet dressing of three parts olive-oil and one part vinegar, to which has been added a pinch of salt, pepper and a half teaspoonful of sugar. Toss the apples and nuts together with this dressing, and serve about two teaspoonfuls on a lettuce-leaf to each person, or else line a large bowl with lettuce-leaves, and heap a mound of the apple-nut salad in the center to be served at will by the hostess.
HOUSEWIFE EDITOR.

To Whip Cream, for Mrs. E. F., Delaware—The simplest method is to whip the cream until stiff in an ordinary yellow bowl with a wire egg-beater, or, better still, a Dover egg-beater. The bowl and cream should both be cold and kept at an even temperature. Beat just as though beating eggs, and add very slowly a few drops of vanilla and about one teaspoonful of powdered sugar to one-half pint of cream. This is delicious served either with sliced fruit or on top of squares of sponge-cake.
HOUSEWIFE EDITOR.

How to Can Horseradish, for Mrs. O. S., Oregon—Scrape and wash well. Put through a vegetable-grinder, mix thoroughly with good cider vinegar, salt to taste, and seal in glass cans.
Mrs. E. Z., Kansas.

How to Keep That Rich Red Look in a Chocolate Cake, for S. E. S., Pennsylvania—Try using soda in place of baking-powder when making a chocolate cake; you will have the rich red look desired.
Mrs. W. E. V., Minnesota.

How to Reduce, for M. J. C., Iowa—An article on this subject will be printed in a forthcoming issue of FARM AND FIRESIDE.

Popovers, for A. D., Ohio—One egg, one cupful of milk, one cupful of flour, a pinch of salt. Beat together in a deep dish with an egg-beater until light and foamy, place in heated muffin-tins, and bake in a hot oven for fifteen minutes. They do not raise until nearly done.
HOUSEWIFE EDITOR.

Graham Crackers, for Mrs. T. A. H., Washington—This recipe was printed in March, 1910:

Mix one quart of Graham flour, one tablespoonful of sugar, one-half teaspoonful, each, of salt and baking-powder, two tablespoonfuls of butter and a large cupful of milk. Mix into a smooth dough, and knead well for five minutes; roll out one fourth of an inch thick, cut in squares, and bake in a rather hot oven for ten minutes. Watch carefully, as they burn quickly.

To Can Mushrooms, for Mrs. S., Arkansas—Select perfectly clean mushrooms. Peel, and stem them. Pack in jars, and when jar is full, sprinkle over the mushrooms a teaspoonful of salt. Shake it so that the salt will fall to the bottom of the jar. Adjust the rubbers, lay on the lids, stand jars on a rack in the boiler, in which there is enough

cold water to come nearly to the top of the jars. Cover boiler, bring water to boiling-point, and boil for one hour. Lift jars from rack, take off the lids, and throw them into a pan of boiling water. In case jars are not quite full, use contents of one jar to fill the others until they overflow. Then quickly put on lids, and fasten securely. Stand for jars on the rack in the boiler, add sufficient boiling water to cover tops of jars. Boil thirty minutes.
Mrs. M., Massachusetts.

Carrot Croquettes, for Subscriber, Ohio—Here is a recipe for carrot croquettes which was published in our October 25th issue:

Boil a number of carrots in salted water until tender; then drain, and mash. Season to taste with pepper and butter, add a well-beaten egg, and when cool form into carrot-shaped croquettes. Dip first in crumbs, then in egg and again in crumbs, fry in deep fat, drain, and insert a fresh sprig of parsley in the end of each croquette to resemble a carrot-top. Serve with white sauce if desired.

New England Brown Bread, for Mrs. E. V., Wyoming—Soak one cupful of stale bread-crumbs in two and a half cupfuls of sour milk overnight. In the morning rub through a colander and add one-half cupful of molasses, one cupful, each, of rye-meal, granulated corn-meal and Graham flour, three fourths of a tablespoonful of soda and one and one-half teaspoonfuls of salt. Stir until well mixed, and steam three and one-half hours. I am confident you will have excellent brown bread if you follow this recipe.
HOUSEWIFE EDITOR.

Seafoam Fudge, for a Subscriber, New York—Pour over the fire in a clean sauce-pan one cupful of light-brown sugar, one-half cupful of water and one third of a cupful of grated chocolate, and boil without stirring until it spins a thread from the point of a spoon. Have the white of an egg beaten stiff, pour the boiling mixture upon it, and stir until it begins to stiffen. Pour into greased pan before it begins to stiffen, and with a buttered knife mark into squares or diamonds. This is delicious!

Special Notice

The Editor wishes to thank the following readers for the answers that they sent to the inquiries printed in this department:

Mrs. B. L. B., New York; Mrs. P. P., Minnesota; Mrs. A. W. B., Pennsylvania; Mrs. E. Z., Kansas; F. M., Florida; Mrs. L. G. C., Kansas, and Mrs. W. A. B., Pennsylvania, for drop dumplings.

Miss A. C. S., Michigan; Mrs. J. B. M., New York; Mrs. S. L., Ohio; Mrs. W. E. V., Minnesota; Mrs. J. H. P., New Hampshire, and S. M., Michigan, for canning pumpkin. Mrs. L. C., Florida, for apple jelly. Mrs. H. G. R., Arizona, for making rose beads.

Mrs. J. H. C., Wisconsin, and Mrs. F. C., California, for sweet-pepper seed.

Mrs. M. F. B., Colorado, to keep granulated sugar from hardening.

Miss M. E. B., Nebraska, for album quilt pattern.

EDITOR'S NOTE—A reader, signing herself Tennessee (the postmark on envelope being Whitwell), has sent me a two-cent stamp with the request for a good laundry-soap. If she will tell me where to send the answer, I will very gladly send the recipe.

If the reader who wants seed for sweet-pepper seeds will write the Editor of The Housewife's Club, she will send her some information that will help her.

Will Mrs. C. L. K. of California please send her address to the Editor of The Housewife's Club?

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His Good Deed

A Young Scout's Experience: By Frances R. Sterrett

Illustrated by Edward L. Chase



LITTLE Jimmie Southgate sat up in bed, his eyes wide open, his heart thumping wildly, as yours or mine might have done if we had wakened suddenly from a sound sleep to remember that we were boy scouts and that the day just ended had been barren of the good deed that is a necessary part of a scout's daily routine. Sitting there in his soft bed, in his blue-and-white pajamas, Scout Southgate shivered because he could not remember one good act to his credit in the past twelve hours, and the list of bad deeds loomed before him in a long row. Punishment in some form, the more awful for being unknown, menaced him until the goose flesh rose all over his plump young body.

Scout Southgate was very young. He really had no business being a scout at all, but when the Wolf patrol was formed, it pleased Mrs. Southgate to present it with a flag in the name of her little son. It pleased the Wolf patrol then to make her little son an honorary member of the organization, and the proudest moment of Jimmie Southgate's life was when he paraded before his mother in the khaki uniform. The only shadow on that moment was the fact that his father could not see him. For some reason that he did not understand, his father did not live with them any more, and he missed the big man with the jolly laugh more than anyone knew. He had learned that it made the tears come to his mother's eyes to be asked when Daddy was coming back, so he shut his thoughts in his little heart and made a brave effort to forget that there were fathers. He had heard Nora, the nursery maid, and Jules, the chauffeur, speak of his father and a separation, but what a separation was he could not imagine, and he never dreamed of asking a servant to explain what his mother would not tell him; but because he did not ask was no sign that he did not think.

And in the meantime there was the Wolf patrol and the wonderful khaki uniform with its knapsack and broad-brimmed hat. Enough to make any small man feel large and important. And he had been on a hike in his uniform. To be sure, his companions were only Nora and Jules, who did not take much interest in outdoor meals, but Scout Southgate had been allowed to gather wood for the fire and to hold the frying-pan while the eggs and bacon cooked, so that the day was a golden one to him, and he came home all sunburned and excited, to find his mother with red eyes and looking so sad that he was frightened, and his thoughts flew instantly to the third member of their triangle.

"Is—is Daddy hurt?" he stammered anxiously.

His mother had pushed him away with a little moan, only to pull him back again and hold him close to her. And all that evening she was very merry, and they played any number of games, and she sat beside him until he went to sleep, but, although she was so merry, Scout Southgate knew there were tears just inside her eyelids.

The next afternoon Sam Swanson, one of the Wolf patrol, had tramped by in his uniform, and when he saw Scout Southgate standing wistfully beside the gate of the big country place, he asked him to come along down to the field where the patrol was to drill. Scout Southgate had gone along to the field where other boys in khaki uniforms had been shown how to pitch tents, how to light fires with no more than two matches and other important things. It was a wonderful afternoon to Scout Southgate, who trotted happily after the older boys, who were very kind and never let him think that he was only big enough to get in the way.

After the tents had been pitched, the Scoutmaster had called the Wolf patrol to him and asked questions. It was then that Scout Southgate learned that a good scout must do one good deed every day.

"Well, Billie," the Scoutmaster had asked, "what was your good deed?"

Billie blushed and hung his head. "I'd rather not tell, sir," he stammered.

"That's all right," nodded the Scoutmaster, encouragingly. "A boy doesn't have to tell his good deeds unless he wants to. How about you, Louis? Did you do your good deed?"

"I gave a lady my seat in the street-car," shouted Louis proudly, "a very fat lady with a big basket of washing, so I guess she was a wash-lady. I gave her my seat."

"That was a good deed," agreed the Scoutmaster. "What about you, Lee?"

Lee had separated two quarreling dogs, Guy had gone on an errand for his sister, Jack had picked a baby sparrow from the ground where it had fallen and put it back in the nest, and George had cut the grass for his brother, who had a splinter in his foot. Every boy in the patrol had a good deed to his credit, except Scout Southgate, who could remember only that he had pinched Nora when she dressed him and thrown a stone at the gardener, who refused to let him ravage the strawberry-bed. He was very much ashamed of what had seemed the only things to do when he did them and writhed with inward anguish. If the Scoutmaster asked him for a good deed, he knew that he would die if the earth didn't open and swallow him first. But the earth didn't open and he didn't die, for the Scoutmaster never questioned the honorary member, but dismissed the patrol with words of commendation.

"We'll go on a hike next week," he promised, "so don't forget what you have learned. And remember your good deeds."

"I tie a knot in my necktie to remind me, and I don't untie it until I've done my good deed," George proudly explained his method.

Scout Southgate, who had never heard of good deeds until that afternoon, surreptitiously knotted the blue silk about his neck as he trotted after Sam and Guy and wished that he could go on the hike. Seems as if he never had any fun like other boys, couldn't do a thing but ride around in an old ottermobile with Jules, who never let him touch the wheel, even. Oh, life was very dark and dreary to Scout Southgate! It was darker and more dreary when he reached the big gates, for Nora pounced on him, right in front of Sam and Guy, as though he were a baby, and impatiently demanded where he had been, and told him his Aunt Lucy and Uncle John had come out for dinner, and he must hurry and be cleaned up, and how on earth did a boy get so dirty? There was a big smudge on his forehead, and his hands were black. And before Scout

the burglars away, and his eyes brightened. His little bare feet made no sound on the polished floor, and he made his way to the open door without stumbling over anything as he was afraid he would.

"I had to come," he heard the hoarse, unfamiliar voice say. "I went by twice before I had the courage to come in. You said you never wanted to see me again, but you didn't mean that? I was a jealous brute. I've got the devil's own temper, but I love you. I love you! I swear I love you more than I did when I married you! I'm a different man now. When you sent me away, you opened my eyes, and I've learned things in the hell I've been in that have changed me. Oh, Jean, darling! Darling! can't you forgive me and let me come back?"

Jean! That was his mother's name. Why should anyone be talking of her and the devil and hell, words that he was not allowed to speak, and if he ever did, Nora washed his mouth with soap. They frightened him, but he bravely left the shelter of the doorway. And then he gave a shriek of delight and ran straight to his father. His father, whose face, as it turned suddenly to him, was as strange as his voice had been, for it was no longer jolly, but pale and lined.

His mother's face was pale and haggard, too, in the moonlight, and she stood very straight and stiff until Scout Southgate propelled himself against his father with hysterical joy.

"Daddy! Daddy! You've come back! I knew you would! I've missed you so. You won't ever go away again, will you?" His arms were around his father's neck, his eager little voice in his father's ear. Southgate pressed him closer. He had never supposed the little chap would miss him so.

Mrs. Southgate came nearer quickly, as though she would snatch her son away. "Jimmie!" she said, and he had never heard her speak quite like that. "Why are you not in bed?"

Scout Southgate looked from mother to father and then tightened his arm about his father's neck.

"It was this way," he began sociably, in his sweet childish treble, and then broke off to ask joyously, "Oh, Mother, isn't it splendid to have Father here again? Just like Christmas an' Fourth of July an' my birthday an' your anniversary, all in one." Father and mother winced as he enumerated the fête days, and he went on a little sadly: "I hadn't done any good deed to-day. I'm a scout, you know, Father, a boy scout!" He straightened himself and wished he had on his uniform, instead of his pajamas. "And a boy scout has to do a good deed every day so when he's a man he'll be thoughtful an' kind an' considerate. I didn't know about 'em till this afternoon, an' Louis gave his seat in the car to a lady, a fat wash-lady, an' Billie wouldn't tell his good deed, an' Jack put a baby sparrow back in the nest, an' George he cut the grass. You don't have to tell 'less you want to, the Scoutmaster says; the important part is to 'member an' do, an' I tied a knot in my tie like George did, an' Nora took it off when she dressed me, an' I hadn't any chance to 'member. An' then Aunt Lucy and Uncle John came, an' I forgot till just now. I got awake, an' I couldn't go to sleep again, 'cause I hadn't done a good deed. It's to make you grow into a good man," he explained again, "a good citizen an' a good man, you know. And I thought perhaps if I came down I could get Ginger a drink or do something. I never thought you were here. I thought it was a burglar! And you told me I must always take care of Mother, that men must take care of their ladies. I'm so glad to see you! I'd like to do my good deed for you! Can't I get you a cigar?" remembering the many times he had run into the smoking-room on that errand.

"I don't suppose there is anything a boy can do for a big, brave man like you?" Scout Southgate spoke with sorrowful wistfulness. "But perhaps, Mother, you'd like a drink of water? I'd love to get it for you."

His mother drew a long breath, like a sob, and turned away as his father had done, and Scout Southgate stood between them, a forlorn little figure in his blue-and-white pajamas and with his tousled curly head.

"Jean, I can't stand this! For the boy's sake if not for mine? Good deeds! God! Can't you forget? Can't you care for me again?"

He took his mother's white hand and, looking up in her pale face, reminded her softly:

"Ladies can do good deeds, too, Mother."

With a strangled sob his mother drew him to her, and then put out her hand to his father.

"Perhaps I was to blame, too, Jim. I've got a temper of my own," she began, but before she could say more Southgate had them both in his arms, wife and child, and was holding them to him as though he never meant to let them go. Scout Southgate released himself from the close embrace and, his bare feet apart, stood regarding his parents with proud satisfaction. That was the way he liked to see them, the way he had often seen them until that something that he could not understand had sent his father away and wiped the smile from his mother's eyes. Surely his mother had done a good deed, and he told her so with great satisfaction and a little envy.

"No, little son," she said. "It is all yours."

"It belongs to both of you!" father declared, and his voice trembled also, and he bent to kiss mother. "Everyone has done a good deed but me. I don't believe I know how. You'll have to teach me, son."



"Scout Southgate . . . tightened his arm about his father's neck"

Southgate could protest, his knotted necktie was thrown aside and he was in the bath, and then in clean clothes, and then, all spick and span, with a tie guiltless of a reminding knot about his neck, he was in the drawing-room shaking hands with Uncle John and letting Aunt Lucy kiss him, while his pretty mother patted his shoulder.

And now it was the middle of the night, almost morning, he supposed, and he had not done his good deed. He shivered again and wondered what would happen. It was Nora's fault for throwing away the reminding tie, but putting the blame on Nora did not bring him sleep, and he tossed restlessly from side to side. It was too late now. How could he do a good deed when everyone was in bed and fast asleep? Only burglars were about at night, when it was as black as this, and he wasn't sure that a boy scout should do a good deed for a bad man like a burglar. He tried to shut his eyes and force sleep, but that good deed clamored to be done, and at last, with a sigh that an old man might have sighed, he slipped out of bed.

"I'll just look around and see if there is someone I can do a good deed for. Perhaps Ginger would like a drink. Maybe dogs get thirsty by the middle of the night," he thought, and crept out of the room very softly so as not to waken Nora, who should be asleep in the next room. The hall was dark, like a huge, awesome cavern, but he made his way down the stairs. When he reached the foot, he heard a voice on the porch, and his heart almost stopped beating. Such a hoarse voice he had never heard before, and his imagination pictured burglars again. He did not know very much about burglars, except that they were bad men and took other people's rings and spoons. He really did not want to do a good deed for a burglar, but if burglars were all that were awake at this time of night, it was not his fault. Anyway, he could not let them take his mother's rings and frighten her. Long ago, when he was a baby in Russian suits and half-socks, his father had told him that he must take care of his mother, that men always took care of their mothers. He believed it would be a good deed to her if he kept

The Road to Happiness

[CONTINUED FROM PAGE 34]

future overwhelmed the pain. "I'll make it up to her!" he promised himself joyfully. "We'll find some way to wipe out the memory of these wretched months! When can I go to her?"

Caroline laughed softly at his boyish eagerness. "I'd wait until to-morrow afternoon. She will want to be alone with her father to-night."

For a few moments Norman indulged in a happy reverie, then a little sigh of boredom from the child on his lap recalled him to the present.

"You're my little mascot," he cried gaily, then went on with a sudden inspiration as to how to spend part of the day of waiting.

"Tell me, can you get someone to take care of the house so that we can go out and have a high old time together?"

Archie gave an assenting cry of delight. "Very well. We'll take Miss Sandford up-town and then—I've heard that there are matinees on Saturday afternoons!"

Chapter XVI.

FROM the moment Frances yielded to her mother's importunities she tried not to allow herself to think. She did not stay alone a moment, but loitered near Mrs. Taylor or Clara, as though she dreaded being left by herself. Her manner was calm and self-possessed enough, but her mother had the uneasy feeling that beneath the surface calm lay turbulent revolt.

After lunch, Mrs. Taylor watched her daughter more closely as they lingered at the table; Frances sitting idly folding and unfolding her napkin with quick, nervous movements, her eyes fixed on her lap in an unseeing stare.

"Dear," her mother ventured at last, a half-fearful note in her voice, "isn't it time for you to dress?"

Frances started violently. "Dress?" she repeated vaguely. "Oh, yes," then rose and walked toward the door, an odd rigidity in her carriage.

Mrs. Taylor was stirred uncomfortably. She could not understand unexpressed emotion. Frances, self-contained, mute, was disconcerting. No tears or lamentations would have moved her, but this stony immobility almost aroused her pity, and hastening after her daughter, she caught hold of one of her hands. It was cold as ice.

"Frances," she begged, a quiver in her voice, "why do you act like this? What is the matter? Don't you know that I only want you to do what is for your own good?"

Frances nodded with an absent little smile, and Mrs. Taylor was not at all certain that the girl heard her as she went on volubly, "My dear, there is very little ideal love in this grasping age. You had a taste of it, and how did you like it? The girl who marries for good common-sense reasons is wisest! It's right and natural for you to do as you are doing!"

Suddenly the girl's immobility vanished. "Right and natural!" she laughed with released passion. "It's wrong and unnatural and degrading! I will marry Mr. Jordan because I don't know what else to do, but let's not be hypocrites about it. Let's at least be frankly sordid!"

Mrs. Taylor stared at her daughter in dismay. Was this girl with burning, weary eyes and face drawn with pain really Frances?

For a moment the girl faced her mother in silence, then, as Mrs. Taylor did not speak, she went on excitedly, "I suppose you know that I'll do Mr. Jordan the justice to tell him the truth. He shan't be allowed to imagine that I—care! I'm not quite low enough to act—that lie!" Her voice broke in a great sob, and others following in quick succession, she hurried down the long hall.

"Frances, you don't know what you're saying!" her mother exclaimed indignantly. "Come back here this moment," but the girl only sped on up the steps, blindly seeking the seclusion of her room.

Locking her door, she began to dress, pulling and twitching at her garments vindictively. She did not understand her own feelings. She only knew that she could not fight the hopeless battle she was engaged in any longer.

At two o'clock Mr. Jordan arrived. All day the sky had been gray, and hardly had he entered the door before a cold, penetrating rain began to fall.

Waiting in the comfortable parlor, he smiled into the fire crackling on the hearth. The weather was evidently his ally. With cheerful satisfaction, he spread his thin, aristocratic hands toward the blaze, his thoughts dwelling contentedly on the hours to come. A home afternoon pleased him better than an automobile ride, for he knew Mrs. Taylor well enough to feel sure that she would make a tête-à-tête with Frances quite possible.

He was not wrong, for up-stairs Mrs. Taylor was viewing the storm with equal complaisance and a similar feeling that the fates were with her. She did not take Frances' outburst at all seriously, for the girl's brief rages had never produced any results.

Clara had announced Mr. Jordan's coming to both ladies, and in a few moments Frances appeared at her mother's door.

"Are you ready to come down?" she questioned nervously.

"Not yet," Mrs. Taylor regarded her dressing-gown placidly. "I'll not be dressed for at least fifteen minutes yet. Don't wait."

The girl hesitated a moment with her hand on the door-knob, then she went out quietly. The calmness of her mother's maneuvering seemed to crush her. How powerless she was to contend against such persistence!

When she entered the parlor, Mr. Jordan rose with eager alacrity and clasped both of her small cold hands in his, exclaiming tenderly, "My dear little lady! How glad I am to see you!"

A quiver ran through her at the sound of his voice, at the living reality of his presence. Laboriously she had convinced herself that she had misjudged him, yet now she felt the old unreasoning dislike sweep over her with fresh force.

A little dazed, she allowed him to seat her in the most comfortable chair, to place a cushion at her back; she heard him murmur sympathetically how tired she looked—almost ill; and when she recovered her self-possession, he was sitting beside her, leaning far forward, looking at her with the half-tender, half-mocking expression she always associated with him, and there came over her the conviction that he knew she was about to surrender, that he had read her as easily as an open book, and when he spoke, her intuition was verified.

"Haven't you resisted long enough?" he questioned, his tone really gentle, really tender; for when he was uncrossed, Jacob Jordan was the kindest of men; and at that moment he felt that his long pursuit was at an end.

Under his look Frances' face turned pink, then vivid scarlet, with shame, but she did not answer.

He laughed exultantly, enjoying her hesitation. Half of his love for Frances had been inspired by her resistance. He delighted in the chase, and only deemed the girl who fled from his pursuit worth catching. Frances had fled in desperate earnest, and now he construed her flaming blushes and downcast eyes as the last signs of pride and maiden hesitation.

"It's hard to say 'yes,' isn't it?" he queried. "But don't be afraid. It's the way of a maid with a man. It's the sweetest surrender in the world."

His voice was low and winning. All of his powerful fascination was paramount in this moment of apparent victory.

"Come," he ended persuasively, holding out his arms. "I'm not so very terrible!"

Frances looked up troubled. Was this man with gentle, soothing manner really the Jacob Jordan whose sarcastic dominance had always repelled her.

"You're not terrible at all," she faltered, disregarding his outstretched arms. "I think I've been unjust to you, Mr. Jordan, and I'm very sorry." Tears sprang to her eyes as she went on with half-shy, half-frightened gratitude, her dislike of him temporarily forgotten. "I learned about this house quite accidentally—and you don't know how much I—we—appreciate your delicacy and kindness."

"Don't speak of kindness between us!" he begged, congratulating himself on this lucky stroke of fortune. "I didn't want you to know, but since you have made the discovery, need I tell you that I'd do much more—for your sake?"

Again he held out his arms, but this time imperatively, masterfully, murmuring, "Frances, come!"

The girl half rose, fascinated, then as quickly shrank back again, before the eager, exultant light in his eyes.

"I don't love you," she sobbed with sudden abandon. "I want to marry you, but I don't love you! What can I do?"

For an instant, Mr. Jordan stared at her in amazement, then in a flash he sprang up, his mildness gone, all of his old autocratic dominance to the fore at this first sign of possible defeat, and catching Frances in his arms, demanded tensely, "What do you mean? What in the world do you mean?"

The girl released herself almost wildly. Suddenly, for the first time, the full horror of what she was doing came over her.

"Oh, Mr. Jordan," she pleaded desperately, "please don't urge me! Please don't force me, because I want to marry you, but it's too awful; I can't do it!"

The dark red of anger sprang into the man's thin cheeks. He had been too near victory to take this fresh rebuff with his usual calm.

"Nonsense," he exclaimed indignantly. "You are acting like a child, Frances! Do

you think it's right to play with me in this way?"

The girl bent her head on the chair-arm in mute anguish.

"No. Everything I do seems wrong!" she confessed bitterly. "I can't blame you for despising me!"

The agony in her voice touched him; but far from lessening his determination to win her, it merely irritated him that she should place him in such an unpleasant position.

For several moments there was silence in the big room. The fire crackled cheerily as though the gossiping tongues of flame were leaping up for a good view, then returning to discuss the scene before them. It was the lull that precedes a final effort. Jacob Jordan, his mind busy deciding on fresh tactics, noted subconsciously that the rain was still falling with a silent, persistent continuance that gave him a feeling of kinship. He heard the harsh noises of the street, he even heard the clock ticking.

Frances' panic gradually lessened into a great weariness. She was grateful for the momentary respite, the opportunity to try to bring order out of the chaos of her thoughts.

So they sat quite still for a few brief minutes, then the door-bell startled them with its abrupt reminder of the outside world.

Frances hastily sat up, wiping her eyes and trying to assume her ordinary manner, while over Mr. Jordan's face came the mocking, keen-eyed expression with which he habitually masked his thoughts.

In a moment they heard Clara answering the summons, then Caroline's soft voice sounded, inquiring for Mrs. Taylor, and an instant later she entered the room.

Woman of the world that she was in the best sense of that term; she allowed no look of surprise to appear at sight of Mr. Jordan or Frances' tear-stained face; but instinctively divining much of the situation from the expression of intense relief which came into Frances' face at her entrance, she determined to end the interview by announcing her news. She did not fear to do this, for she well knew that there is no armor as proof against gossip as candid publicity.

"Father found!" Frances cried in joyous amazement, in the middle of Caroline's discreet explanation. "How wonderful! I'm so happy—so glad!" Her words poured out with rapturous incoherence. Never before had she realized the depth of her feeling for the self-effacing father she had known so little.

Jacob Jordan was violently angry at the interruption and its cause; but capable as he might be of ethical misdemeanors, he was incapable of disregarding the social niceties.

During the family crisis which had so suddenly developed he knew himself to be an intruder, so after a moment's reluctant hesitation, during which he politely proffered his services, which were as courteously declined, he bowed himself out, managing, however, to murmur to Frances, "Until the next time," with very definite meaning.

Then, before Frances and Caroline could exchange half a dozen words, Mrs. Taylor entered the room, and as soon as Caroline delivered the letter, everything else was forgotten, and the scene became hysterical.

Mrs. Taylor did not indulge in as many reproaches as Caroline had expected, for her brief experience of poverty was too bitter not to make her desire her bread-winner back at any cost, and in the sense that so selfish a woman could feel that emotion she loved her husband.

Even during the excitement, however, she glanced at Frances from time to time with anxious curiosity, but she put no questions, ashamed to have anyone know that any but the one subject was in her thoughts. After a few moments of agitated questioning, she and Frances hurried up-stairs to put on their hats and coats, while Caroline waited for them below.

In the sudden quiet that followed their exit, she leaned back in her chair with closed eyes. Now that her duty was done,

she felt very tired in heart and body and a dull feeling of loneliness crept over her. Very soon Mrs. Taylor and her husband would be reunited and Frances would have Norman, and then none of them would need her any more, she thought with a strange feeling of regret, and gradually an almost passionate desire always to be necessary, always to be the one person in the world to someone, filled her consciousness and forced the hot tears to her eyes. Hastily she wiped them away as Frances' and Mrs. Taylor's voices sounded from the stairs, but the feeling that had caused them remained.

A taxicab had been ordered, and in a moment the two women were seated in it. Caroline refused to accompany them, saying, "You will surely wish to be alone at first, and you can just telephone me later if there is anything more I can do."

Frances was looking absently at the mud which had been churned up by Mr. Jordan's motor-car, and suddenly the memory of his last words, "Until the next time," returned to her and with it her usual nervous dread. Some vague uneasy presentiment seemed to tell her that Jacob Jordan had still a part to play in her life. Abruptly she leaned forward and put her arms about Caroline's neck, thinking of her opportune appearance. "We always want you, dear," she murmured, kissing her. "Everything seems to go better when you are around."

Caroline returned the caress lovingly, a little of her old unselfish joy returning, but when the taxicab with the usual preliminary whirl and jolt started away down the slippery street, she shivered in the cold air just freed from rain, and the feeling of loneliness rushed back upon her, but as she hurried toward the nearest car-line gradually she began to blush and smile as the memory of the morning's scene in Mr. West's office recurred to her for the first time. She was "the one" to him! [TO BE CONTINUED]

Keeping Ourselves at Our Best

By E. G. White

How very rare a thing it is to find a person who is at all times and under all circumstances at his best, able to be complete master of the situation. What engineer would think of taking his engine out for a run in anything short of the best condition possible, every part perfectly cleaned, polished and oiled? Is it not fully as essential that to do the best possible service the body be kept likewise, in the best attainable condition, and yet how very seldom is this done? The body has certain requirements just as essential to a perfect working condition as are those of the engine.

How many people rise of a morning with that tired, languid feeling, a dull ache in the head, a bad taste in the mouth, for no other reason than that their sleeping-apartments lacked ventilation. Many likewise are allowing themselves to move at a snail's pace, entirely unfitted for efficient service, just from sheer lack of sufficient sleep. nature's great restorer, when by adding two hours to what they already had secured they would have experienced that feeling of restfulness, of buoyancy, that would have fully doubled their working capacity.

What a pity that persons will, in this enlightened age, drag themselves about more dead than alive, unable to do their utmost, when a thorough bath, a vigorous friction-rubbing, would make them new creatures, ready to attempt anything. Often the weary houseworker, exhausted by reason of the never-ending demands on time and strength, would find herself rejuvenated by getting out of doors into God's blessed sunshine and pure air, drinking in the healing drafts and, best of all, working in the garden, digging in the dirt, letting the magnetic currents of the earth draw from her system the poison of the overwrought nerves.

Or, for another, the most complete rest-cure would be a day off, a spin through the country, different scenes, new faces.

Without doubt the greatest transgressions against the well-being of the body is that of improper diet, the filling of the stomach with foods so difficult of digestion. So long have people been laboring under the delusion that "the more food eaten, the more strength," when more often the very reverse is the case, that the evolution from these theories must be long and painful.

But that evolution must be accomplished ere our bodies are in a condition to manifest anything like the perfect working condition that an all-wise Creator designed that they should manifest; till they show forth more of the divinity of the Creator who planned them as perfect working machines, capable, by proper adherence to nature's wise laws, of almost untold possibilities.

Whose Little Boy Was He?

AN IRON hoop bounded through the area railings of a suburban house and played havoc with the kitchen window. The woman waited, anger in her eyes, for the appearance of the hoop's owner. Presently he came.

"Please, I've broken your window," he said, "and here's father to mend it."

And sure enough, he was followed by a stolid-looking workman, who at once started to work, while the small boy ran off.

"That'll be four bits, ma'am," announced the glazier when the window was mended.

"Four bits!" gasped the woman. "But your boy broke it—the little fellow with the hoop, you know. You're his father, aren't you?"

The stolid man shook his head.

"Don't know him from Adam," he said. "He came around to my place and told me his mother wanted her window fixed. You're his mother, aren't you?"

And the woman shook her head, also. Lippincott's.

Mind Your Feet!

YOU must always mind your feet, because they're sometimes apt to stray

And lead you into mischief, if you're foolish, young and gay.

We often blame our inward selves for lots of things we do.

Whilst all the time it's just our feet who've guided us and who

Will take us into places that we have no right to be,

And make us suffer many things that we could not foresee.

So keep your weather eye upon those members, I entreat;

Your head and heart will do their part, but, mind you, mind your feet!

They say that every movement has a meaning of its own,

So watch the movements of your feet, because, if left alone,

They are not to be trusted and they don't care where they go,

So keep an eye upon the little wiggle of each toe.

If seated at a table and one foot should gently touch

Another foot—be cautious now—the contact might mean much!

For tentative caresses stolen thus, of course, are sweet,

But will only lead to danger, so be careful, mind your feet!

If when going into battle as a soldier brave and bold,

You will not feel keen for fighting if your feet are feeling cold,

Then warm them up by exercise, turn, run the other way,

So that when they're good and warm you can, then, fight another day.

And don't forget when in a crowd or riding on a car

To keep your trotters well in hand—don't thrust them out too far;

If you're lucky and are sitting, put them underneath the seat,

And keep them there until you rise; be careful, mind your feet!

Now here's advice to older folk (much older folk than me):

Old ladies and old gentlemen who hobble painfully.

Treat kindly those old friends which you have had since you were born;

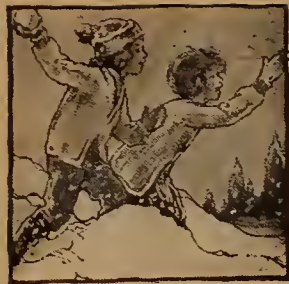
Put a plaster on the bunion and on every little corn;

Remember they have carried you for many anxious years

And have borne you to much sunshine through this weary vale of tears.

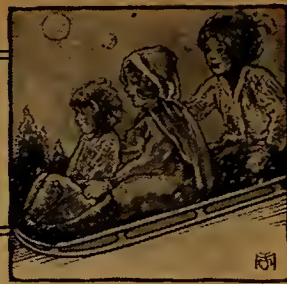
Think back on pavements gaily trod and flowery meadows sweet,

And if you want to still tread on, tread gently, mind your feet!



OUR YOUNG FOLKS' DEPARTMENT

Conducted by Cousin Sally



Cousin Sally's Letter

DEAR COUSINS—

The New Year's Resolutions have been coming in with every mail. It seems as if all the cousins belonging to our Club had decided to turn over a new leaf with the beginning of the year and have written me about it. I think that we may be able to tell who won the prizes by the next issue, but I'm not making any promises. I just wish you could see the piles and piles of letters that come to "Our Department of Good Resolutions."

Don't you think that it is time to be starting to write me about those school resolutions that I talked about to you in my letter of January 6th? I am very anxious to get to work to help you.

You see, our paper, FARM AND FIRESIDE, is very much interested in the question of country schools. Perhaps some of you have read the delightful articles that Miss Jessie Field wrote us, not so very long ago. Miss Field is superintendent of some of the finest country schools in the United States. She knows just what boys and girls need in their schools and how to help them to get those things. She told me that every girl in her county has some kind of instruction in sewing and cooking and serving, if she cares to take it, and every boy has a chance to study corn-judging and many other things interesting to farm boys.

Every summer they have a farm institute for the girls and boys of the county. They live in tents for ten days and have excellent teachers from Ames Agricultural College to show them the very newest and best methods in domestic science and farming.

It is surprising what a great deal of learning and fun, too, you can get out of school-work if you just go about it the right way.

So write to me about your school. Tell me what it needs, and what you think would help to make things better. Ask your teacher to write to me. I'm sure that

I can help a great deal if only you will let me. Your Cousin Sally is just as interested in the girls and boys of our rural schools as it is possible to be.

And our page is going to have some dandy plans on it for our school gardens. Wait till you see what I have up my sleeve. All sorts of things!

Don't you just love to look through seed-catalogues? That's what I've been doing until I dream of wonderful rose-bushes that are all rose, and tomato-plants where there are six tomatoes to every three leaves.

Then it's "Ho" for our tomato clubs and our corn clubs and our poultry clubs and all sorts of good things.

And now one word about our contest. I want this new contest to be the most successful one we have ever had. Study the picture well. Think over it, then get your pad and pencil, and write about it. Remember that spelling, grammar, punctuation and penmanship will be considered as well as the composition work. So do your level best. Don't say, "Oh, I can't write as good a letter as the other boys and girls! I'll never win a prize!" For then you are bound to fail. Say to yourself, "I'll do it and do it the very best I can." And even if you shouldn't win a prize, you will have at least tried. "Practice makes perfect," so don't give up easily. If Marconi had given up at every little discouragement, we would have no wireless telegraphy to-day! Every great man has had to face disappointments, but perseverance, courage and just plain grit made him worthy of a place in history.

I shall be greatly disappointed if I can't tell Mr. Quick that this contest is the biggest one we've had since I came among you.

I want our little people to try, too! I'm just as interested in you, dear little folks, as I am in my older cousins.

Remember, everybody, that whatever you write must be *your own*. Don't ask for help. Depend on yourself. You know we C. S. C. members believe in a square deal—so play fair. Then, if you win a prize, you will

know that you won honestly. Be sure to write your name, age and address at the top of your letter.

Dear me! I've used up all my space. I wanted to say loads of things that I have no room for this time. So good-by until next issue, and don't neglect to write to, Yours affectionately, COUSIN SALLY.

Our New Contest

Girls and boys, I want you to look at the picture which is below these words. What do you think about it? How does it make you feel? Where would you like to hang such a picture if you had it framed? Won't you write me some letters on this subject? I have decided to make it our next prize contest. The girl or boy who writes me the best letter on one or all of the questions that I have asked about the picture will receive the first prize. The ten next best letters will receive ten other prizes. The first prize will be what is called an artist's proof of the picture, nicely framed, and ready to hang just where you think it ought to be. I have my own opinion as to the place where I would hang such a picture and I'm very anxious to have yours.

Now don't have your letters too long. Try to say all that you have to say in one hundred words. Write on one side of the paper only, and see that they reach me on or before February 15, 1912. Address Cousin Sally's Contest, FARM AND FIRESIDE, Springfield, Ohio.

Puzzle Answers

If you haven't guessed the names of the girls which are the answers to the puzzle entitled "Hidden Names of Girls," which I published on our page in the issue of January 20, 1912, here are the answers: 1, Frederica; 2, Stella; 3, Effa; 4, Elizabeth; 5, Julia; 6, Frances; 7, Florence; 8, Josephine; 9, Adelaide; 10, Alice; 11, Lona; 12, Maud; 13, Helen; 14, Grace; 15, Edith; 16, Jane; 17, Mabel; 18, Emma; 19, Caroline; 20, Anna; 21, Bertha; 22, Edna. Did you guess the names?



Forgotten—A painting by Balfour-Ker Verses by Dosha Macy

THE summer's work is over,
The pasture's brown and bare,
The dead leaves, falling, rustle,
And chilly is the air.

I'll wander toward the barn-lot,
'Tis time that I was fed
And housed within a light, warm stall,
And had a good straw bed.

I've toiled and sweat through many a day,
At plow, or drag, or drill;
Thus helped my master faithfully
His granaries to fill.

I ask not for my service
His silver or his gold.
Why is it then I suffer
With hunger and with cold?

The night is closing round me,
And snow is falling fast.
The gentle, sighing breezes
Have reached a stormy blast.

The moon has ceased its shining,
All hidden are the stars;
Will anyone remember
To come, let down the bars?

Heating for Country Homes

By William Draper Brinckle

LET'S suppose a minute.

Suppose you have a little lawsuit on hand; something involving only about fifty dollars, for instance. Well then, do you attempt to handle the case yourself, to be your own lawyer? Of course you don't!

But suppose you want to put in a new heating-system; what then? It's a matter of several times fifty dollars, so do you

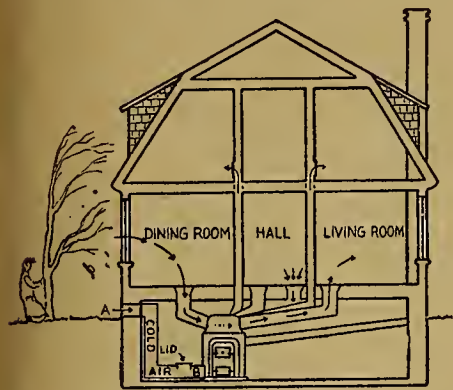


FIG. 1.

consult a disinterested expert and pay him for his advice? "No; why should I?" you say.

But stop and consider; what do you really know about heating? What is the difference between steam heat and vapor heat, for example? And what are the advantages and disadvantages of hot water? Of course, your plumber can tell you something; only, if you were buying a horse, would you depend entirely on the word of the fellow who was selling it to you?

When the average man wants his house heated, he usually goes to two or three different heater men, saying to each, "I want a bid on heating my house with hot air," or steam, or hot water, as the case may be. Now, each of these men wants the job; therefore, he tries to get it, by putting in a low bid. Of course, he can cut off all his profits and do the work at bare cost; only, he doesn't! No; he figures on the *very smallest heater that will possibly do the work*, thereby saving twenty-five or fifty dollars. "Saving?" Yes, in a way; but a heater that is too small requires forcing to make it heat the house properly; and you will have to burn more than enough extra coal, the very first year, to eat up every cent of that "saving!"

The only safe way is to go to some reliable heater man, architect or heating

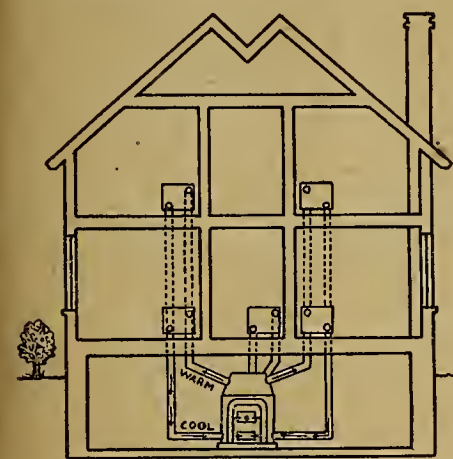


FIG. 2.

engineer and pay him to prepare your heating-specifications; letting him examine your house and do the thing very thoroughly. Of course, some obliging heater man may offer to prepare such specifications free of charge, but don't touch them! They will very possibly be "loaded," so that no other heater man can bid on them with any hope of success. You think you can detect such a "load?" Well, you can't, that's all. And a thing you get for nothing is usually worth just about what you pay for it, or a little less!

Now let's look at the different systems a bit.

Direct Hot Air—First comes ordinary hot air (Fig. 1) with a furnace in the cellar, and tin heat-pipes running to the registers. Cold air is taken in through an opening in the cellar wall (A) and then carried in a large cold-air pipe (B) to the opening at the bottom of the furnace-casing. This cold air gets heated as it rises around the fire-pot, and then passes up into the drum at the top of the furnace. From here it is distributed by the various pipes to the different registers. Very simple? Not a bit of it!

For instance, there is a high wind and the sash doesn't fit very tightly on that side of the house. So the air blows into the dining-room, under the heavy pressure of the gale, and forces back the column

of warm air coming up the register, only, as this warm air must escape somewhere, it shoots out into the living-room with double volume. Therefore, we get too much warm air where we don't want it, and not enough where we do. This difficulty exists to a greater or less degree in all ordinary warm-air systems, though we can control it to a considerable extent by putting the furnace over nearer the windy side of the house, so as to make the pipes on that side as short and direct as possible. Also, the dampers in the cellar heat-pipes can be manipulated, partly closing some and opening others full.

The cold-air pipe is often too small; it should have two thirds the combined area of all the other pipes. And, in very cold weather it's as well to shut off the outside damper, A, and open the lid, B. Then there ought to be a very large register in the floor of the hall, without any connecting pipe; when this register is open, the cold air in the house drops down in the cellar, enters the cold-air pipe at B, and then passes on to the furnace, to be re-heated. Of course, it takes far less fuel to re-heat this moderately cool air than to heat the very cold outdoor air, but, on the other hand, this re-heated air isn't so fresh and pure.

Therefore, an ordinary hot-air system, save in small, sheltered houses, requires an excessive amount of fuel to get the proper results, though the first cost is less than any other sort of heating-plant.

Hot-Air Radiators—But quite recently a modified hot-air system has been introduced. An ordinary hot-air furnace is installed in the cellar; then the usual tin heat-pipes are put in. Only, instead of registers, small flat sheet-iron radiators are set in the rooms and a second series of tin pipes are run to carry the cooled air back to the furnace, where it is re-heated and sent up again, and so on continuously (Fig. 2). It is exactly like a steam-heat system in principle, but, in place of steam, the pipes are filled with hot air. Naturally, wind has no effect on this sealed-up air. The cost of installation is more than an ordinary hot-air plant, but less than steam, hot water or vapor.

The manufacturers claim that this system is a great fuel-saver, and so far their claims seem to have been realized.

Steam-Heat—About fifteen or twenty years ago steam heat was considered to be the ideal thing, but to-day it has been almost entirely superseded by hot water and vapor, and is hardly ever used. In very cold weather steam will heat your house splendidly, but unfortunately there is no means of regulating it for more moderate temperatures. If you shut off the steam, everything at once gets cold; if you turn it on, the whole radiator gets frightfully hot; and, therefore, one has to be continually turning the valves off and on. Practically the same amount of coal is used to keep up steam in mild weather as in the dead of winter; and, finally, if a little too much water gets in the pipes, a steam-heating plant can kick up enough racket to drive any self-respecting boiler-shop insane with envy!

Hot-Water Heat—Hot water costs a little more to install than does steam, but it is better in nearly every way. It is entirely under control, for one can have the water barely warm or, on the other hand, as hot as one chooses. Fig. 3 shows such a system; the pipes and radiators are always full of water, up to the level of the expansion tank in the attic. There is, of course, no risk of explosion, for this expansion tank is open at the top, and thus no dangerous pressure can be produced anywhere.

When a fire is started, the warm water at the top of the boiler rises, while the cold water in the radiators flows down and comes in at the bottom. Thus a constant circulation is set up, so long as there is any fire. But if the boiler, the radiators, or the pipes are too small, or if the pipes are laid without the proper slant, the system will be a failure. The rule for calculating the size of radiators is a

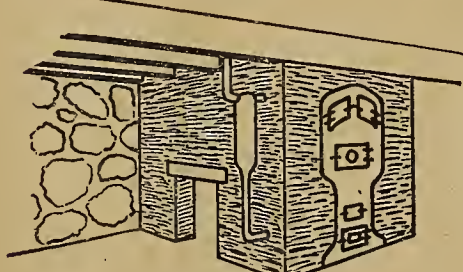


FIG. 4.

rather complicated one; it depends on the size of the room, the number and size

of the windows, the thickness of the outside walls, and the direction of the prevailing winds. The handbooks issued by the different manufacturers of radiators give these rules.

The boiler ought to be rated twenty-five per cent. higher than the radiation; thus, if your radiators work out to 600 square feet, the boiler should be about 750 feet rated capacity. And, by the way, be sure that your boiler is "sectional," and not "round," if at any time you add a room or two, and need more heat, it's a very simple matter to slip in an extra section, but the round boiler cannot be so increased and you will have to buy a complete new one.

The most serious defect in a hot-water plant is the risk of freezing, for tepid water will freeze far more quickly than cold water, odd as it may seem! Therefore, it is unsafe to leave all the radiators in a cold room shut off for any considerable length of time.

Another drawback is that a hot-water radiator takes an hour or more to heat up or cool off, as the case may be; it is not nearly so quick on the trigger as the other systems.

Vapor Heat—The newest system is vapor heat, and it is, all things considered, probably the most satisfactory. The cost

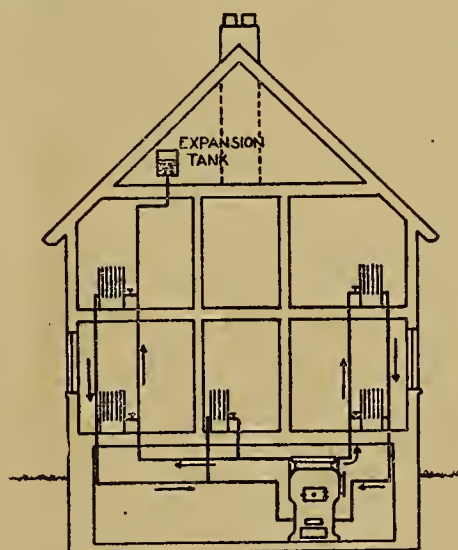


FIG. 3.

is about equal to hot water, and the boiler and radiators are almost the same as for steam.

The principle is something like steam; only, by peculiarly constructed valves, the air is sucked out of the system, and the vapor from the hot water, at practically no pressure, fills the pipes. By setting the valves, you can let as much or as little vapor into the radiators as you choose, thus keeping the room at the exact temperature required. There is no noise, like steam; no risk of freezing, like hot water, and the heat is very "quick on the trigger," responding almost instantly when you want to increase or lessen it.

It's a good idea, by the way, to build a small box of brickwork around your boiler (Fig. 4); leave an opening down near the bottom to admit cold air, and then set a register in the floor of the room above. This will utilize all the heat that would otherwise be wasted, and it's a mighty comfortable thing, let me tell you, to have such a register to stand over when one comes in half frozen.

The various hot-air people make quite a talk about the excellent ventilation that an ordinary hot-air furnace gives one, and then they proceed to slap at hot

water, vapor, etc., because these do not furnish any fresh air. This objection can be overcome by the use of "indirect" radiators (Fig. 5). These are hung under the joists in the cellar, and a sheet-iron box surrounds them, with a pipe leading to the outside air. A register in the floor lets the heat up.

But, as a matter of fact, if one has a fireplace in the room, there will never be any trouble over ventilation. One of the largest private schools in Philadelphia keeps an open fire going in each classroom, winter and summer; and the air is always remarkably fresh and pure. Of course, the fireplace isn't meant for heat, merely for ventilation; and the blaze is kept as small as possible. An open fireplace always gives such an air of cheerfulness and comfort to a room! If you should go to England, you would find one in nearly every home. No; whatever you do, don't abandon the open fireplace. Nothing can ever be quite so cozy.

FIG. 5.

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Novel Borders for Towels

Crocheted Insertions and Edgings

By Evaline Holbrook



OUR illustrations are shown three new towels beautified with hand-made laces, a method of adornment that is immensely popular just now, both with the prospective bride and the older woman fond of a lovely home. Two of these patterns are, in spite of their beauty, exceedingly simple. The first is wider and more elaborate, in effect much like Irish crochet, without any of the difficulties of the latter.

Towel with Wide Crocheted Insertion—For this border No. 40 linen spool-thread and a medium-sized steel crochet-hook are used. The border is made of square medallions joined together after they are finished. The medallion with the center square is worked as follows: Ch 21, turn, skip 1 ch, 1 s. c. in each of the others. On this row work 3 rows more of s. c., picking up the stitches on the double thread.

Fifth Row—Turn, 9 s. c. along row, turn, 1 s. c. in each of the 9 just made. Drop the loop from the needle, but do not fasten off. Count along the fourth row 2 stitches from the end of the fifth row. Begin in the third stitch, working 9 s. c. to the end of the fourth row. Turn, 1 s. c. in each of the stitches just made. Fasten off.

Pick up the dropped loop and work the seventh row, as follows: Turn, 1 s. c. in each s. c. to center space, ch 2, 1 s. c. in each s. c. of second short row.

Eighth Row—Turn, 20 s. c. along row.

Ninth Row—Turn, 7 s. c. along row, turn, 7 s. c. on those just made. Drop the loop. Count 2 stitches along from the end of the ninth row, make 1 s. c. each in the third and fourth stitches, turn, 1 s. c. in each of the 2 just made. Fasten off. Again count 2 stitches along the ninth row, begin in the third, and work 7 s. c. to the end, turn, 7 s. c. on those just made, fasten off. Pick up the dropped loop. Twelfth Row—7 s. c. along row, ch 2, 2 s. c. on center, ch 2, 7 s. c. to end. Make 1 row all s. c., repeat fifth, sixth and seventh rows, make 3 rows all s. c., and fasten off.

For the loops around the square continue as follows: First Round—Ch 7, catch in the fifth ch from the needle to form what is called a picot, ch 8 and catch in the fifth ch from the needle for a picot, ch 2, catch in the end of the third row down the side of the square. All the ch loops throughout the work are made with 2 picots in this way, and no mention will be made of it hereafter. Make 5 loops in all along the side of the square, spacing them evenly apart. The last loop should be caught in the next corner. Work all around, putting 5 loops on each side.

Second Round—Ch 5, catch in the center of first loop of first round. *Make 4 loops along the round, catching in the center of the loops of preceding round. Ch 7, catch in the center of next loop, turn, 8 s. c. over 7 ch just made, turn, ch 3, skip first s. c., 1 d. c. in each of the others, ch 3, catch in the stitch with which the 7 ch was caught, and repeat from * to the end of the round. There will be 4 shells, one at each corner. Catch the 7 ch of the last shell in the first catching stitch of the round.

Third Round—Work in loops all around, catching in the center of each loop of preceding round, in the center of each shell and at each end of each shell. Catch the last loop in the center of the first loop of the round.

Fourth Round—Ch 10, catch in the center of next loop, *ch 5, catch in next loop, repeat from * all around, excepting at the corners, where 10 ch should be made. After the last loop has been caught into, ch 3, and catch in the fifth stitch of the ch with which the round was started. After this round the work should be perfectly flat, and to

accomplish this result it may be necessary to change the number of ch. When finished, fill each space with s. c., and fasten off.

The medallion with the round center is worked as follows: Ch 4, join in a ring, in the ring work 12 s. c. Work 2 rounds of 1 s. c. in every second stitch, 2 s. c. in the stitch between. Pick up the stitches on the double thread.

Fourth Round—Work in picot loops as instructed for the medallion with square center, catching every second stitch all around.

Fifth Round—Ch 5 and catch in the center of first loop, *2 picot loops along the round. Make a shell as instructed for medallion with square center, and repeat from * to the end of the round. The remaining rounds are worked like those of the other medallion, and for them the directions of the latter may be followed. When all are finished, join the medallions alternately with s. c. The insertion is placed between narrow hems one and one-half inches above the hem of the towel.

Towel with Open Scalloped Lace—Use No. 60 linen spool-thread for this lace, and start with a ch the width of the towel.

First Row—Turn, 1 d. c. in the eighth ch from needle, *ch 2, skip 2, 1 d. c. in next. Repeat from * to the end, then work 3 s. c. in each space of first row. Repeat the first and second rows.

Fifth Row—1 d. c. in first stitch, ch 3, skip 3 stitches, 1 d. c. in each of the next 5, ch 3, skip 3, and repeat from the beginning to the end of the row.

Sixth Row—Work 5 d. c. on each cluster, and between the clusters ch 1, 1 s. c. in space, ch 1, 1 s. c. in next space, ch 1.

Scalloped Row—1 s. c. in space before cluster, *ch 8, 1 s. c. in space after cluster, turn, in the new ch loop work 1 s. c., 9 d. c., 1 s. c., catch in space, turn, 1 s. c. in each stitch of scallop, catch in space, 1 s. c. in each of the next 2 spaces, repeat from * across the lace, and fasten off. Work a row of 3 s. c. in each space across the heading, fasten off, and overhand to towel.

Towel with Small Scalloped Lace—This lace is worked with the same thread as that just described. Part of the work is done lengthwise and part with rows running up and down. The up-and-down rows are made first. Begin with 8 ch, turn, skip 3 ch, 1 d. c. in each of the others. Turn, ch 3, skip first d. c., 5 d. c. along row. Repeat second row until the strip is long enough for the width of the towel, then work a row of holes down one edge, putting 1 d. c. in the end of each row, 2 ch between. Fasten off. This is the heading of the lace, afterward to be overhanded to the towel. Along the other edge of the strip continue the crocheting, as follows:

First Row—Make 7 holes along the edge, as instructed for the heading, *10 d. c. in the next 3 rows, 10 holes, and repeat from * to the end.

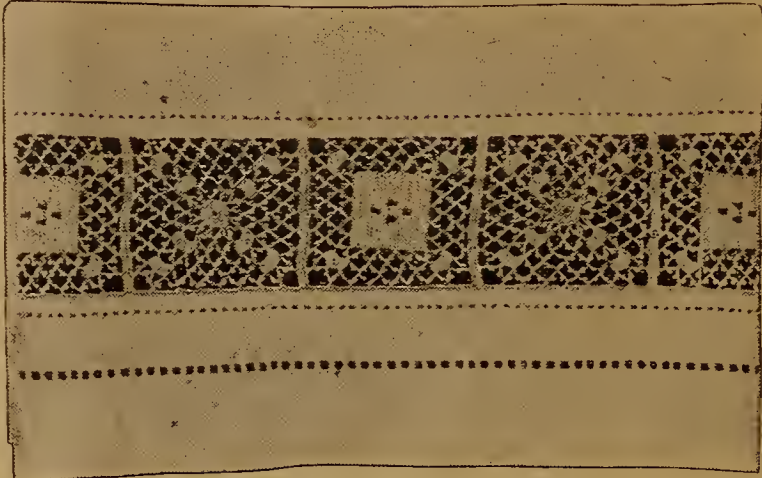
Second Row—Work a hole over the center of each d. c. cluster, 7 d. c. at each side of it. Work the remainder of the row in holes. Repeat the first row.

Fourth Row—4 d. c. over the center of each d. c. cluster, otherwise work in holes.

Fifth Row—3 s. c. in each space.

Sixth Row—Over each d. c. cluster a large scallop is worked as follows: Catch in the stitch over the first d. c., ch 4, catch over the last d. c., turn, 9 s. c. in ch loop just made, catch to preceding row, turn, 1 s. c., 7 d. c., 1 s. c. in stitches of ch loop, again catch. On the edge between the large scallops make 6 small scallops of 5 d. c. caught between with 1 c. h. At the end fasten off.

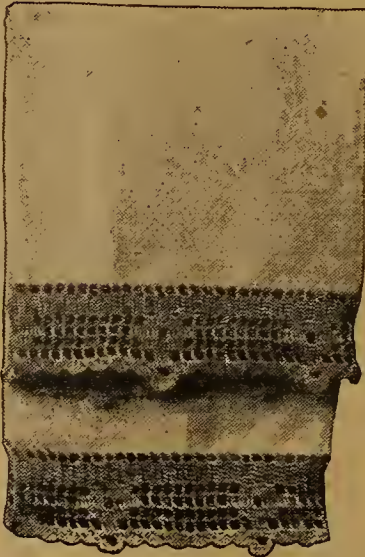
Such borders as these form a welcome change from the usual embroidered edge of scallops. They are easy to make and quickly applied.



Towel with Wide Crocheted Insertion



Towel with Open Scallop



Towel with Small Scallop

Ireland's Ready Wit

I SHOULD like to chat with you a while, Mrs. Duggan," says the young lady who has taken up settlement work. "I want to talk with you about—" "Are you one of them uplifters?" interrupts Mrs. Duggan, without taking her hands from the wash-tub. "Well—in a sense, that is my hope." "Well, I've just this to say. I was one day behind with my washin's last week, because of helpful visitin' committee ladies, an' from now on them that wants to improve my condition in life will either have to do th' washin' while I sit an' listen, or pay me fifty cents an hour f'r hearin' them through with an interested an' inspirin' expression."—Judge.

A SOLEMN and awe-inspiring bishop was examining a class of girls and asked: "What is the best preparation for the sacrament of matrimony?" "A little coortin', me lord!" was the unexpected reply of one of the number of worshipers.

"WELL, Mr. Murphy, how are you to-day—better?" asked the doctor. "No, sor, Oi'm worse—as full av pains as a windy!" replied Mr. Murphy. "Worse! Did you rub the stuff I sent you well into the skin?" "Rub it into me skin? Av course not, sor! Oi saw it was labeled 'fur outward applications only,' so Oi just rubbed it on me clothes!"

"WHY didn't you go to the assistance of the defendant in the fight?" asked the judge of a policeman. "Shure," was the answer, "an' Oi didn't know which av them was goin' to be th' defendant, yer honor."

"WELL," said the colonel, "what do you want a two weeks' furlough for?" Patrick answered: "My wife is very sick, and the children are not well, and if ye didn't mind, she would like to have me home for a few weeks to give her a bit of assistance." The colonel eyed him for a

few minutes and said: "Patrick, I might grant your request, but I got a letter from your wife this morning saying that she doesn't want you home; that you are a nuisance and raised the dickens whenever you were there. She hopes I won't let you have any more furloughs." "That settles it. I suppose I can't have the furlough, then?" said Pat. "No; I'm afraid not, Patrick. It wouldn't be well for me to grant it under the circumstances." It was Patrick's turn now to eye the colonel, as he started for the door. Stopping suddenly, he said: "Can I say something to yez, sir?" "Certainly, Patrick, what is it?" "You won't be angry, sir, if I say it?" "Certainly not, Patrick; what is it?" "I want to say there are two splendid liars in this room, and I'm one of them. I was never married in me life."

How to learn the Rule of Three: Live with your wife, your mother and your mother-in-law.—Lippincott's.

Patterns for All the Members of the Family

With a Special Offer Which Will Appeal to the Economical Woman

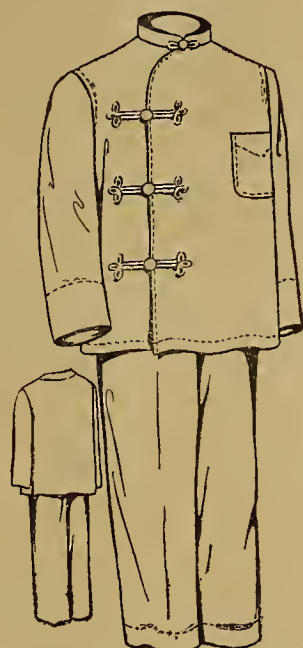
Designs by Grace Margaret Gould



No. 1619—Shirt-Waist
Cut for 2, 34, 36 and 38 inch bust



No. 1471—Boys' Blouse
Cut for 4, 6, 8 and 10 year sizes



No. 1921—Men's Pajamas
Cut for 34, 36, 38, 40, 42, 44, 46 and 48 inch breast measures. Material for 40-inch breast, six and one-fourth yards of thirty-six-inch material



No. 1922—Men's Bath-Robe
Cut for 34, 36, 38, 40, 42, 44, 46 and 48 inch breast measures. Material for 40-inch breast measure, five yards of thirty-six-inch material



No. 1469—Boys' Yoke Blouse
Pattern cut for 6, 8 and 10 year sizes



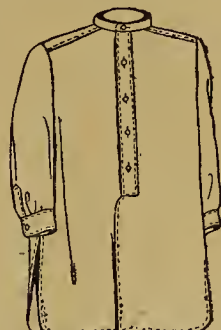
No. 1945—Dressing-Sacque
Cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures



No. 1440—Apron
Cut for 6, 8 and 10 year sizes



No. 1813—One-Piece Dress
Cut for 1, 2, 4, 6 and 8 year sizes



No. 1802—Men's Negligee Shirt



No. 1921—Men's Pajamas
Cut for 34, 36, 38, 40, 42, 44, 46 and 48 inch breast measures. Material for 40-inch breast, six and one-fourth yards of thirty-six-inch material



No. 1922—Men's Bath-Robe
Cut for 34, 36, 38, 40, 42, 44, 46 and 48 inch breast measures. Material for 40-inch breast measure, five yards of thirty-six-inch material



Back View of No. 1802
This is a good pattern for shirts of flannel or madras



No. 1879—Guimpe Dress
Cut for 6, 8, 10 and 12 year sizes



No. 1876—One-Piece Dress
Cut for 4, 6, 8 and 10 years



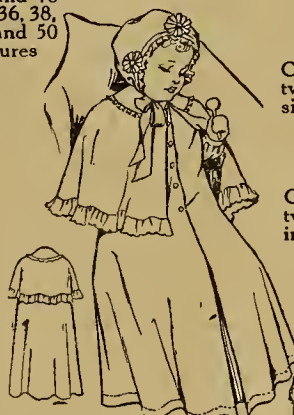
No. 1798—Housework—High or Low Neck
Cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Material for 36-inch bust, five yards of thirty-six-inch material. For low-neck, one and one-fourth yards of thirty-six-inch material required



No. 1947—Combination Corset-Cover and Petticoat
Cut for 12, 14 and 16 year sizes. Material for 14 years, three yards of forty-four-inch material



No. 1925—Bishop Dress
Pattern cut in one size only. Quantity of material required, four and one-half yards of twenty-two-inch material, or two and one-fourth yards of thirty-six-inch material



No. 1924—Cloak with Cape
Cut in one size only. Material required, two and three-fourths yards of thirty-six-inch material



No. 1927—Plain Slip
Cut in one size only. Material required, two and one-half yards of thirty-six-inch material



No. 1926—Wrapper with Yoke
Pattern cut in one size only. Quantity of material required, three and one-half yards of twenty-seven-inch material, or two and one-fourth yards of thirty-six-inch material



No. 1828—Buttoned-Over Waist with Rever
Pattern cut for 12, 14, 16 and 18 year sizes



No. 1829—Six-Gored High-Waisted Skirt
Pattern cut for 12, 14, 16 and 18 year sizes



No. 1525—Three-Piece Bib Apron with Pockets
Cut for 32, 36 and 40 inch bust measures. Material for 36-inch bust, three and three-fourths yards of thirty-six-inch material



No. 1923—Princesse Slip, High or Low Neck (sleeves in three styles)

Cut for 32, 34, 36, 38, 40, 42, 44, 46 and 48 inch bust measures. Material for 36-inch bust, eleven yards of twenty-two-inch material, with three yards of embroidery for flounce, or five eighths of a yard of thirty-six-inch material for the ruffle. When the sleeves are omitted, two and one-fourth yards less of twenty-two-inch material



No. 1456—Wrapper with Princesse Back
Cut for 34, 36, 38, 40 and 42 inch bust measures. Material for 36-inch bust, eleven and one-fourth yards of forty-four-inch material



No. 1940—Low-Neck Waist with Guimpe
Cut for 32, 34, 36, 38 and 40 inch bust measures
No. 1941—Dancing-Skirt with Scalloped Tunic
Cut for 22, 24, 26, 28 and 30 inch waist measures. Length of 40 inches



No. 1940
No. 1941



Special Pattern Offer

ANYONE ordering three of the WOMAN'S HOME COMPANION patterns illustrated on this page may secure all three for twenty-five cents. The usual price of WOMAN'S HOME COMPANION patterns is ten cents each, so be sure to take advantage of this special opportunity offered in this number only.

Copyright, 1912, by The Crowell Publishing Company



No. 1865—Waist with Buttoned-on Collar and Cuffs
Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures

No. 1866—Four-Gored Skirt with Plaited Panels
Cut for 22, 24, 26, 28, 30, 32 and 34 inch waist measures. Length, 40 inches

No. 1934—Surplice-Waist with Fichu Collar
Pattern cut for 32, 34, 36 and 38 inch bust measures

No. 1935—Skirt with Band Trimming
Pattern cut for 22, 24, 26 and 28 inch waist measures. Length, 41 inches



No. 1865
No. 1866



No. 1934
No. 1935

Tradition or History?

[CONTINUED FROM PAGE 31]

privation and suffering which they found. But they fed the starving child and ministered unto the mother as best they could, until late that afternoon, when a man child was born, who was to have half a century of life, in many respects like the twenty-four hours that preceded his birth, so full of sorrow and suffering and tempest; who should write his name so indelibly on the scroll of fame that time shall never efface it, even until that day when the earth shall pass away and a new earth and a new heaven shall be established; whose name, until that time shall come, over all the world shall be spoken in reverence and awe, as one chosen of God from among men born and reared in luxury, clothed in purple and fine linen, men of education and culture fitted to shine in the social circles of both the Old World and the New, chosen to deliver a downtrodden race.

So was this babe born in a hovel "as lowly as the Son of God" on that terrible twelfth of February. He received none of the beauty of either the mother or the handsome father, as his little sister had done, but on his face the imprint of sorrow was so plain that even in infancy it was noticeable.

The mother, after being fed and cared for by the kind neighbors, was spared by the mercy of God for a few more years. The shiftless father soon returned to his family, and the weary round of drudgery went on for the mother.

We see, through the obscuring mists of a century that is dead, the little boy as he begins to toddle in the footsteps of his little sister. We see them in their childish way trying to help "Muvver," by carrying water up the rocky steep and by gathering up the fallen limbs in the forest to warm them in winter and in the summer to cook the frugal meals.

At night we see the frail, gentle woman gathering her precious little ones in her arms, and telling them of her childhood days in the old Virginia, weaving Biblical tales of her own fashioning for their edification, teaching them their first lessons, and impressing her remarkable individuality so indelibly on their plastic minds that the boy grown to be the great Lincoln, and President, said, "All that I am, or ever hope to be, I owe to my angel mother."

Eventually the man from whom the

place had been purchased began to ask for his money, an unknown quantity in the carpenter hovel. So the family moved away; and at the age of six little Abraham, the babe born on this "little farm that raised a man," left the desolate spot never more to return.

To-day the thoughts and minds and footsteps of countless thousands have turned toward this place, and in the days to come the thousands will marvel at the ways of Him that "doeth all things well," and in His own appointed way. On the site of the lonely cabin to-day there stands a beautiful memorial hall builded of the finest granite, covering the cabin so that it may be preserved for all time. At the laying of the corner-stone of this hall, then President of the United States, together with other notables, came from the National Capital to the little farm to participate in the exercises. Two and a half years later another chief executive again made the long journey to attend the dedication of the memorial building that marks the place where the first six years of this child's years were spent.

Author's Note—The writer lives near the birthplace of Lincoln, and has so lived all her life. The local traditions relating to his birth are familiar to her, and have always been. Years ago there lived in that neighborhood a very respectable old woman called Granny Kieth, whose son was married to a relative of the writer. Once Mrs. Kieth and the writer's grandmother spent a day together, and in the hearing of the writer, then a child, Mrs. Kieth told by request the story of Lincoln's birth as told by Mrs. Kieth's mother to her, as a personal experience of one who was present. The story as told above is true, if the tale only one degree removed from that of an actual eye-witness is true. That it has been in some degree colored by the illusions of memory, and distorted by repetition, may be admitted as a probability, but the writer feels certain that in the main the story is true. In those days the minds of people were not distracted by newspapers, magazines and telephones, and the stories passed from mother to daughter and from father to son were often repeated about the fireside where people talked rather than read—and oral tradition was in the main quite accurate.

Elegant Easter Post-Cards for You

WE want every reader of FARM AND FIRESIDE to have a set of our beautiful Easter Post-Cards. These cards are the latest and finest production of the post-card manufacturer. We have had them made especially for our readers. Just think, the artist who designed these cards worked on them for more than a whole year. You will admit that the designs are perfect and that the coloring could not be improved upon.

Magnificent Designs

Never before have we seen such a perfect display of post-card art. The workmanship and coloring of these cards stand unrivaled. They are beautiful beyond comparison. Each card in the assortment we have for you is different, but every card is a complete and perfect picture. These cards are bound to excite the admiration of all your friends, but it will be impossible to obtain more like them after our supply is exhausted, because they have been made exclusively for FARM AND FIRESIDE readers.

Wonderful Variety Gorgeous Assortment

Each card is printed in from twelve to fourteen colors and gold. The variety is perfectly wonderful. No two cards in the assortment we have for you are alike. The gorgeous embossing, rich colors, dainty and delicate touches brought out in each card show the work of a master artist. Some of the subjects portrayed in the pictures are **rosy-cheeked children, beautiful flowers and landscapes, Easter rabbits, Easter eggs** and an endless variety of other subjects connected with Easter time. Remember, April 7th is Easter Sunday. So right now is the time to have these cards.

Unrivaled Offers

Good Until March 10th

Offer No. 1. Every reader who sends us \$1.00 in payment of a three-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a set of fifty Easter Post-Cards, all charges prepaid.

Offer No. 2. Every reader who sends us 50c. in payment of a one-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a set of fifty Easter Post-Cards, all charges prepaid.

Offer No. 3. Every reader who sends us 70c. in payment of a two-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a set of fifty Easter Post-Cards, all charges prepaid.

CLUB-RAISER SPECIAL

Get two of your neighbors to hand you 35 cents each (**special club-raiser price**) for a year's subscription to FARM AND FIRESIDE. Send us the 70 cents for the two subscriptions, and we will send you as special reward our set of fifty beautiful Easter Post-Cards, all charges prepaid.

MAIL YOUR ORDER NOW

Send Your Order to
FARM AND FIRESIDE
Springfield, Ohio

The Verdict of History

By Richard Lloyd Jones

I have read with interest the manuscript, "Six Years of a Life." Without in any manner reflecting on its author, let me say that there is more romance and fiction woven about the early life of Lincoln than any other figure in American history. I do not profess as a historian to be more accurate than any other and I do not profess to be a historian at all on anything but the story of my own life and perhaps the early life of Lincoln which this article undertakes to discuss. Perhaps Miss Thomas has been told the truth, but I seriously think she is misinformed.

The best substantiated story that I have been able to secure of Lincoln's birth is briefly told. Merely this: That while Tom Lincoln was not a prosperous citizen; far from it, he was not a bad citizen. The books that were kept by the merchants at Hodgenville and Elizabethtown, some of which are still in existence, show that he had good credit at the stores. Such a man as this story describes would not have had good credit. Moreover, it is a matter of record that Tom Lincoln was for four years town supervisor of the Louisville and Nashville Pike, which ran through his county. That thoroughfare was the main artery from the north to the south in that section of the country, and such a position was a responsible one and not awarded to such a man as is here described.

Intimate friends and neighbors of Lincoln at that time, whose records we have, concede that for a log cabin of that time and place the Lincoln cabin was rather well equipped. It had the customary number of good cooking-utensils, there was a fancy woven coverlet on the bed, and while the floor was a dirt floor, it was what was known in that time as a baked dirt floor. It was hard and was covered with mats.

And as a last piece of evidence to show that this is, I am convinced, untrustworthy tradition, Mr. Robert Enlow, for some years a state senator at Frankfort, a resident of Hodgenville, states very specifically that he can often remember his grandmother telling of how, on the night that Abraham arrived, Tom Lincoln ran over to their house, which was about half a mile away on an adjoining farm, and this good woman came over and attended Nancy Hanks in the critical hour and that Tom Lincoln was very proud and very happy and very busy trying to help during all the time.

I have secured some thirteen affidavits of people best authorized to give testimony on the subject, besides the records referred to, and I believe they clearly show that this account is erroneous.

I have read countless stories that differ widely as to the origin of Abraham Lincoln, all of which discredit the father; many of them viciously question Abraham's parentage. The best ground for dismissing these stories is that no two of them are alike.

When the Preacher Closed the Bible

By Sidney Albert

AH, WELL 'tis I remember in my childhood's early day
I rejoiced to see the preacher, in his lazy sorter way,
When, turning to the people with a sanctimonious look,
He would lay one hand so fondly on the good old holy book;
And after he had finished with a closing word so true,
He would slowly—ah, so slowly—he would slowly close it too.

In many a pleasant retrospection, in these far-off latter years,
I've reviewed my childhood's pleasures and its mishaps and its tears,
But of all the pleasant hours and the moments fraught with joy
That filled my days with happiness when but a barefoot boy
The most supremely pleasant one, I truthfully must say,
Was when the preacher closed the Bible in that lazy sorter way.

I would dream all through the sermon, and before my sleepy eyes
Floated visions of fried chicken and the ghosts of cherry pies;
For of all the many dinners I've been called upon to eat
That good old Sunday dinner—well, it's mighty hard to beat;
But I always paid attention when the "Lastly" he would say,
And the preacher closed the Bible in that lazy sorter way.

The Last Baby Goes

By Beulah Tatum

BOBBY was gone. The old house stood silent under its great maple-trees, the yard stretched lonesomely down to the creek, and the creek gave back no echoing splash. Indoors, it was even worse. For mother was alone, and the silence she had sometimes longed for seemed to smother her as she went mechanically about her work. No little feet pattered beside her, as she went from garden to cellar; no chubby hands reached out to "help," for the last one had started to school. Mother was remembering back along the busy years, for there had not been much time to remember for a long while. How full the days had been! One was scarcely finished before the sun would shine in her bedroom window, and she would begin all over again.

And now she was alone, for the very first time since her year as a bride in this old home, and that had been sixteen years. How she had grieved when the twins started to school, eight years ago!

But then when she came back from watching their sturdy little legs twinkle out of sight across the bridge, there had been plenty of noise in the house. For a five-year-old and a toddling baby were there to need mother.

The busy years had pushed her along all too fast. Soon the five-year-old and by and by the toddler were away all day at school, and only Bobby and mother left at home.

From a crowing, bald-headed man child in long dresses he had been a most exciting companion. He had managed to roll out of his cart at an unheard-of age, and at unheard-of times; he had produced two sharp teeth long before the proper time, and bit off the top of his milk-bottle cap, and almost drowned himself before he could sit up.

The question-age had begun early with him, and sometimes she had been too tired to answer patiently all the time when his soft little voice said, "Why, Mother?"

Well, the teacher must answer him now, and he would never be *all* mother's any more.

There lay his hammer—bless his heart! He had stopped to mend her high stool before he went. Here on its nail hung his bed bucket; he always gathered the beans for her in that.

The long swing-ropes dangled disconsolately from the apple-tree limb; old Rover lay beside the gate, listening.

The whole family often went away; Rover was used to that. But Bobby never left mother alone. It was two miles to school, and father was in the farthest field husking corn.

When he came in at noon, no little boy would run to open the gate, and there would be no round brown head above the table's edge at dinner.

It would be the first time since the twins sat in their high chairs that father and mother had eaten alone.

Then mother sat down in the little chair where she had loved to sit and rock her babies, and began to remember the dreams she had before the babies were there to be rocked.

All the days were to be full of beauty, flowers were to bloom everywhere, and when evening came, she and John were to sit down together and read and write.

Her little poems were to have grown better. She had even dreamed that John's pride in her should deepen as he saw her name oftener in print, for she had written, years ago. And her friends had said, "By and by, when the children are in school, she will write again." And she had believed them.

The quick rush of tears almost blinded her. Now that she had time, the continual giving of self was to be no more.

For eight hours almost every day her brood was gone; she could *think*, she could be away now in the afternoons, and the club was no longer out of her reach.

The years had gone so swiftly; it seemed to her now as if they had never been, and that she was still the young wife, with life's dreams all before her. Yes, life had been fuller, sweeter than she could then have hoped, and yet how she begrudged each mistake of hers that in any way had made a bitter memory for her children.

How glad she was, all at once, for the years ahead, before they should each one find a work in the world and go out from home to fill it.

The old clock in the hall solemnly struck ten. This was always Bobby's hungry time. Would he remember mother when the found his two big cookies in his shiny pail at recess? No, he would only hurry to eat them, and race out to join the "big

boys" at play, the goal of his ambitions reached at last. It was left for *mother* to remember.

Her desk stood there by the east window, just where she used to sit and write. It was always in order nowadays, no longer overflowing with half-finished stories; no longer were the backs of all her letters scribbled over with bits of verse.

The baby-books were kept there now, a lullaby or two and some birthday stories written to please the children. And the big drawer was full of school reports and compositions.

Now had come the time so often longed for, hours of her own every day.

Faithful old Molly was busy in the kitchen, and silence brooded over house and yard.

Her fingers seemed to feel again the joy of racing across the pages as her brain bade them; long-forgotten thoughts rose like a mist around her.

As she paused beside her desk, her eyes wandered a little farther. A half-open door revealed another window, where the big apple-tree peeped in all day. In its shade lay the deserted sand-pile and in its leafy branches was the play-house. How many, many hours had she rocked and sewed here, as she watched the children at their play. Yesterday that was Bobby's world; yes, the *last* one was gone.

The mother sat down for her quiet-time, but not at the desk, where one could look far off toward the lonely mountain-top. She drew her rocking-chair close to the "children's window," and soon her fingers were busy with a great hole in one of Bobby's stockings, and her heart brimmed over with happy mother thoughts for the days ahead.

Perhaps the feet for which we mend,

In years that are to be,
May run afar on golden paths
Life closed for you and me.

An Old Superstition

THE superstition of rapping on wood when one has been betrayed into boasting of a special bit of luck, like immunity from illness, etc., is of German origin. The raps were supposed to drive away evil spirits vexed by vaunted happiness or any piece of good fortune.

The three raps originally signified the three persons of the Trinity, Father, Son and Holy Ghost, and the necessity for rapping on wood was because that was the material of the cross. M. STARBUCK.

The Gift Club's Mail-Bag

By Jean West, Secretary

IVE had such a budget of interesting letters this month from Gift Club girls that it is something of a problem to pick out just the best ones to show you. However, here are a few in which you will be interested:

DEAR MISS WEST—

I received by to-day's mail the box of stationery, for which I wish to thank you. It came as a surprise, for it was an extra gift from our Club. The monogram, T. G. C., is very beautiful. I also received a few days ago the bracelet and the picture, San Castello. The bracelet is lovely and several people have admired it. I think The Gift Club is very generous in its presents, and I would like to earn more of the gifts if my health permits.

Sincerely, VIRGINIA.

And here is a letter from a Gift Club girl who lives in Kansas. She is a new member of our Club:

DEAR JEAN WEST—

I was so pleased with my embroidery outfit and I am more than proud of my stationery. I wasn't expecting it. You told me in your letter you had a surprise for me, and it surely was one!

With love, IDA.

I only wish that I could show you the hundreds of letters from girls who have earned our beautiful jewelry. The birthday ring seems to be a great favorite with most of our Club members, and I do not wonder, it is such a beauty! There is a different stone, of course, for every month of the year. When you have earned the ring, just tell me the month you were born in, and I will send the appropriate ring.

DEAR JEAN WEST—

I got the petticoat, and I think it is just grand for the easy work that I had to do. I would have let you know sooner, but I have been sick and would not let anyone write for me. I was afraid they would not thank you enough for it. I am so proud of it, and I am going to get to work as soon as I can, for I do want some more of your gifts. I must have one of those rings.

Sincerely yours, NELLIE S.

And here's another enthusiastic letter:

DEAR MISS WEST—

I received my lovely toilet-set and the box of writing-paper, and I surely am delighted with them both. I am ever so glad that I joined the Club. Now I want the comb, brush and mirror to go with the toilet-set. If it's anywhere near as pretty as that, it must be beautiful. You'll hear from me again within a few days. Now I must stop and get to work. M. E. C., Ohio.

Here's a letter from a little girl who has just celebrated her thirteenth birthday:

DEAR MISS WEST—

The vacuum cleaner that I earned for mama just came, and you don't know how delighted she was with it. I think that it is more fun to get things for mama than for myself, so I am going to try hard now to earn one of those shirt-waists. You'll send her the right size, won't you?

Your little friend, MOLLY N.

DEAR MISS WEST—

I received my embroidery patterns and was delighted with them. The dandy box of stationery came too, also the curtains. I think they are beautiful, and if all the gifts that you have for us are as nice as these two, you may count me a member for the rest of my life. ANNA H., Ohio.

If you have not yet learned our Club's secret and the way that our Club girls earn all these beautiful gifts for themselves, do let me take you into my confidence. I want to tell you all about the Club and its members, but of course I cannot unless you write me first and tell me that you are interested. There are no dues or expenses of any kind—nothing but gain to you. Do write to me to-night.

Jean West

Secretary, The Gift Club,
FARM AND FIRESIDE, Springfield, Ohio.

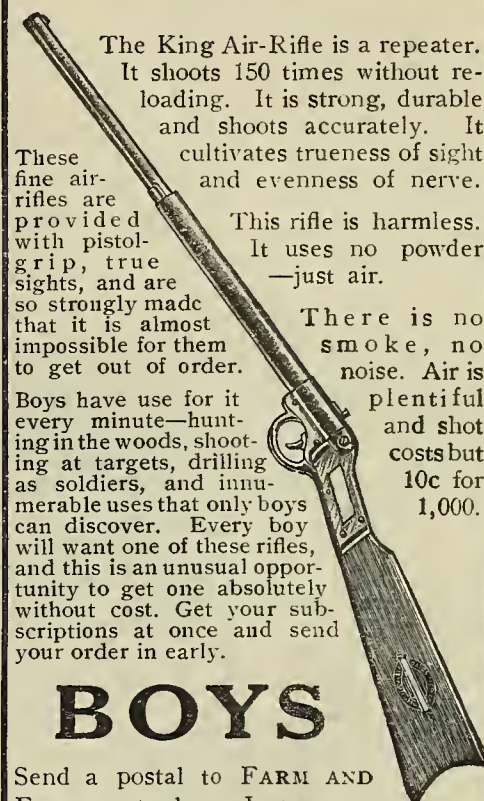
BOYS!

Get This

Air-Rifle

A Few Moments of Your Spare Time

Will Turn the Trick



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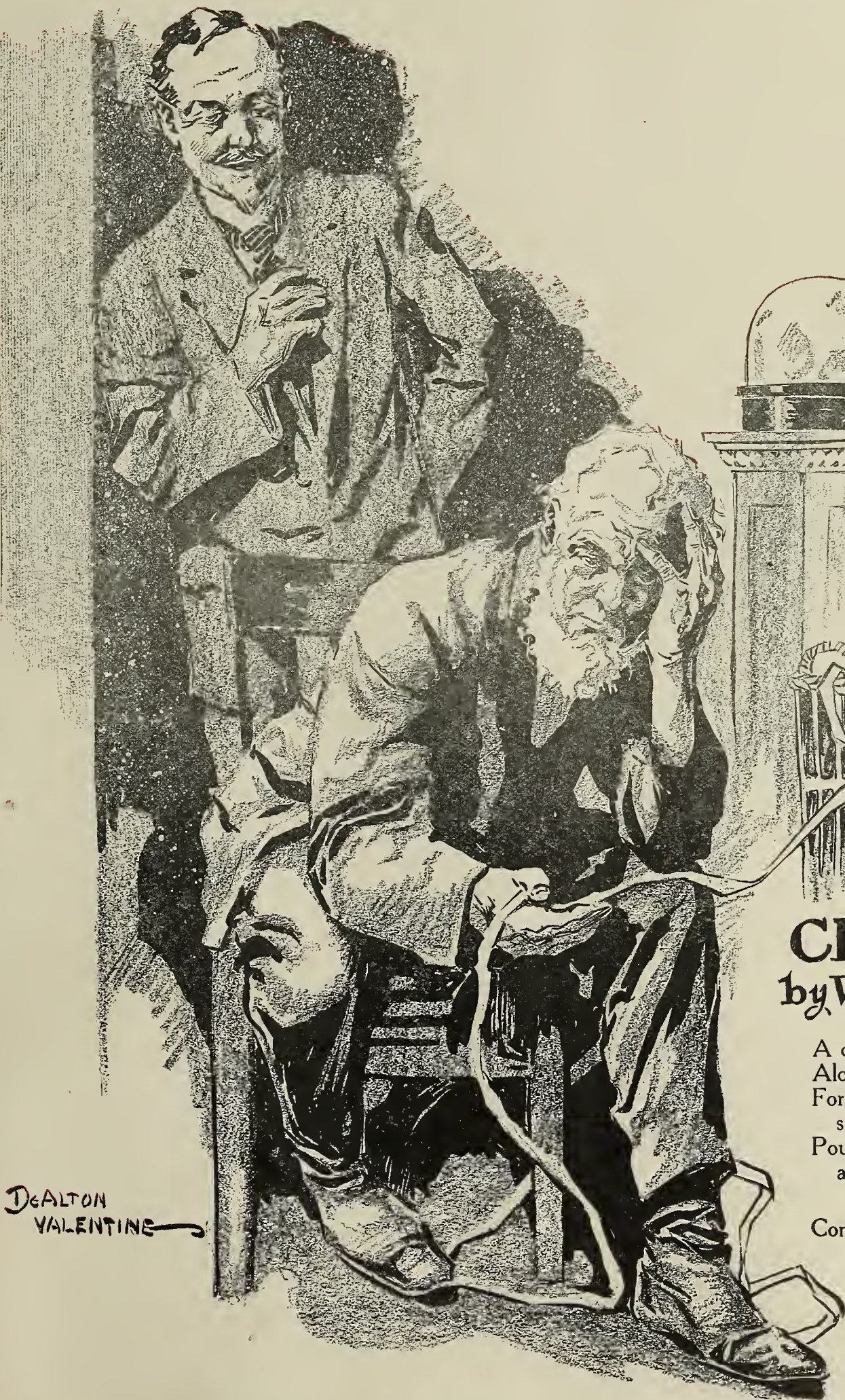
FARM AND FIRESIDE

THE NATIONAL FARM PAPER

EVERY OTHER SATURDAY

ESTABLISHED 1877

MARCH 2, 1912



DALTON
VALENTINE

Once Wealthy
Now a Pauper!

Oak Grove, Jan. 2.—John J. Brown, an old settler, and long a prominent farmer of Fairview Township, this county, was taken to the poor farm to-day. His story is the old one "Skinned on the Board of Trade." One year ago he had a half section of the best land in the state. He thought he knew how grain was going, and bought heavily through a concern in Chicago. It always seemed to him that if he would put up a few hundreds more, he would win. The result is that he has lost farm and everything else, and will die a pauper.

The CRAB and the FOX by William Ellery Leonard

A crab, forsaking in disgust the sands
Along the shore, went up the meadow-lands
For feeding-grounds. A famished fox who
saw,
Pounced down and ate him, head and tail
and claw.

MORAL
Contentment with our lot's a wholesome law
[After Aesop]

Get More Wool Get Longer Wool Get More Money

for your wool by shearing with a Stewart machine because such wool has a longer fibre. Wool buyers pay more for long staple—and you get the longest by shearing with a

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With the Editor

SOMETIMES a letter drops into the commonplace stream of correspondence like a stone thrown from some medieval catapult into the waters of the twentieth century. Such an epistolary missile is a letter just received from an old reader in Michigan, whose name I do not give, because I'm not sure he would want it published.

"I cannot help support a paper that approves such doctrines as James A. King explodes in his article, 'Farming with Tractors.' I am a small farmer trying to make an honest living, and I do not care to see the day come when I shall have to be his wage slave; that is, if I am able-bodied enough and he needs a man. This will be a small chance, as he says machinery will displace men. He as much as says that a very few, himself among them, have brains enough to farm that way. Now has he brains enough to tell me what will become of the men machinery displaces?"

"I hope to see the day that machinery will lighten our work; and I am supporting papers that advocate a system whereby we shall all derive an equal benefit if we are able and willing to do our share of the operating. Not until then should he say, 'Starve, you to whom I will not furnish employment!' I have nothing against the man. It is the system he advocates. Here is hoping that you will all begin to think more about the brotherhood of men."

One's first impulse, in this self-satisfied twentieth century, is to smile at this sort of letter; to rate it as the mouthings of a crank, and dismiss it as of no importance. But no man's honest thought can be rated as of no importance. Every man's thought is important.

When thrashing-machines were introduced in this country, they were welcomed by our farmers—and so with the reaping-machine and the steel plow. But when C. W. Marsh went over to Austria to demonstrate the first Marsh harvesters, the machines were guarded night and day to keep hired men from breaking the thing which was to rob them of their jobs. And many a thrashing-machine was torn in pieces by enraged failers who saw their employment gone forever.

But are hired men and small farmers any the worse for the introduction of agricultural machinery? I do not see that they are. The farmers of China and Japan buy their entire outfit of farm tools for less than ten dollars. They do not use horses or other draft-animals to any extent. They mostly do their work with the tools nature gave them. Are they better off than our friend the small farmer of Michigan? No, they are not. They are very, very poor. They have no fire in the house for purposes of warmth, even in cold Manchuria, but rely on clothing to warm them even within doors. They eat scarcely any meat. Eggs that are infertile they eat after it is certain that they will not hatch. While their houses and their food are such as to keep them in fair health, the life they live is so strenuous a struggle for subsistence that white men could not exist under it.

Machinery makes a great deal of difference in the matter of employment—there is no disputing that. But where men are, as our Michigan friend would say, most "enslaved," they reach a stage where they can drive out the machine. They do so in China and Japan. Human life is so cheap there that machines have no chance to get in. Flesh and blood is all about under foot asking employment, but machines cost money. So the farming there is done without machinery—save that which the Egyptian slave used in the time of Moses. For slaves, such tools are better than tractors.

IF MR. KING—to whom I have to apologize for this reference—actually had the giving or refusing of employment, he might give it with or without machinery. If human beings were cheaper than machinery, he would use men without machinery. If machinery were the cheaper, he would use machinery. I believe in such a condition of things that every man could be his own employer if he chose; and the nearer we come to that condition, the dearer are men and the more reason there is for employing machinery.

Expensive agricultural machinery was called into existence by the freedom of men in new America and the preciousness of flesh and blood. Where men are valuable and free, steam drives the piles for wharves and bridges. Not so where men are cheap. In Hong Kong, Professor King saw human pile-drivers at work. They had lines fastened to a great block of iron, and to the rhythm of a chanted refrain they lifted this rope-hung hammer and dropped it on the top of the pile. King noted how the pile sank, and reckoning the expense of a steam machine against the wages these men received, he pronounced the steam pile-driver less economical than the human one. Would our Michigan friend prefer the steam pile-driver, or the human one?

When we have reached that "brotherhood of man" of which our friend speaks, we shall not have fewer tractors, automobiles, gasoline-engines, dynamos, and the like, but more. He sees that, dimly, for he hopes for the time "when all shall derive an equal benefit." So while he looks askance at Mr. King's tractor as a danger, he dimly sees that it is not really a danger—or he would not look for a millennium in which tractors shall work for the "equal benefit" of all. He has not looked far enough into the matter to see just what it is that gives work or refuses work.

What is the function of machinery, anyhow? Is it not this: That by machinery the power of man is magnified, made to do more work, caused to produce more of the things men desire, satisfy more human wants? Mr. King by his tractors believes he can make more food from his farm than without them and with fewer hands. What becomes of the hands he turns off? says our Michigan friend. The answer is easy. They can work elsewhere. And their work elsewhere will satisfy as many human wants as if Mr. King had not adopted tractors. He may have more, but they have no less. Does our Michigan friend say no? Then let us look into this matter a little further.

THE ideal way of doing farm work, or mining, or railroading, or water commerce, or manufacturing, would be by the push-button system. If the owner of any business could rise in the morning and push the button setting in motion automatic machinery which would do all the work, without any attendance, the perfection of labor-saving machinery would be attained. We say we have annihilated distance and time: by the push-button system we should annihilate work. We should have all the tractors, motor-cars, steamships, thrashers, binders, and the like, beaten to a frazzle. All industry would be concentrated into the one industry of pushing buttons, and the head of the family could do the day's task on the farm—and everywhere else, with but one motion of the forefinger.

All the hired men on farms and employees in every other business would be turned off. Would they starve? They might—I am free to confess so much to my Michigan friend. Who would be sure of a living? [CONCLUDED ON PAGE 17]

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Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published every other Saturday. Copy for advertisements should be received twenty-five days in advance of publication date. \$2.00 per agate line for both editions; \$1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2 1/4 inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.



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Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXV. No. 11

Springfield, Ohio, March 2, 1912

PUBLISHED
BI-WEEKLY

Cheap Farm Labor!

DOCTOR DORSEY, writing from Cochin, India, to the *Chicago Tribune*, says: "Imagine Illinois with fifty inches of rain and every acre of wheat and corn watered by hand! Labor is so cheap here they don't even use bullocks at the end of a rope. An Illinois farmer spends more money each year for handkerchiefs than a Cochin ryot spends for clothing; more for tobacco than this ryot for food, and a year's subscription to the *Tribune* would send a ryot's son to school and clothe him! What of the Illinois ryot 2,000 years hence? I doubt whether he will own a quarter section." Rather a startling paragraph for people whose descendants are likely to live on Illinois soil in 2,000 years, isn't it? And the knowledge that there are tendencies downward to that sort of industrial hell is the fine thing about this age. We're not going to allow ourselves to descend to that state. The way is open for us, however.

"Land without population is a wilderness," says James J. Hill, "and population without land is a mob." The population provided with land in Ohio has decreased one-twentieth or more in the past ten years. In all the best agricultural States it has been the same. The population without land in the nation has increased more rapidly than the population on the land has decreased. Just sit down and do a "sum" in arithmetic, the answer to which will be the number of years when we shall be all "mob."

Honesty and Oleomargarine

THE National Dairy Union has so modified its stand on oleomargarine that only the prohibition of color-imitation of butter will be insisted upon. That is, the dairy interests will not ask for a high tax on oleo, but will insist on the product being sold in such form as will not enable its sellers to deceive the public. This is honest and perfectly fair. Oleomargarine should not be made dearer, for those who wish to use it, by a tax. It is a food, and the poor man's food should not be taxed. We feel that the same arguments that support untaxed sugar support a fair policy as to oleomargarine. The farmers of Denmark are great users of oleomargarine—even the dairymen sell their butter and eat "margarine." The product may, even when sold fairly and on its merits, become a powerful competitor for butter; but we have no right to object to competition. We can and must meet competition with better goods and economy in production. But we have a right to ask that this competition shall be fair and open and not supported by counterfeits and forgeries.

Just So!

IN HIS swing around the circle of the States explaining the value of the beet-sugar business to all of them, Mr. Hamlin of Colorado Springs

asserted that the interests of the beet-sugar people and the sugar trust are adverse, and that the refiners are behind the agitation for revision of the sugar duty downward "for the purpose of killing off the beet-sugar mills." But Mr. J. H. Riley of Fowler, Colorado, at a congressional hearing testified that "If you hurt the sugar-refiners, you hurt us." "Us" may mean the beet-sugar factories, though Mr. Riley is described as "a prosperous farmer." If the beet-sugar business depends on maintaining the present enormous tax to the refiners, sugar-users should know it, and do some figuring as to whether the small sugar-beet game is worth the immense sugar-tax candle. The fruit, vegetable and canning business are directly opposed in interest to high sugar prices.

Last year was a bad one for grasshoppers. If the next season is dry, look out! There are ways of fighting them. Look them up.

Cattle-Feeding and Flies

WE SHOULD like to hear from people who know anything about the fighting of flies by cattle-feeding, with hogs following. The statement is made that on farms on which cattle are fed during the summer, with hogs following, the flies' eggs are deposited in the droppings and then destroyed by the swine. Two farms are cited by our informant, on which this practice was followed, with the result that the places were almost entirely free from flies.

Almost any farm could afford to keep a beef or two on feed about the place if the flies could be thus trapped.

What the Two Colonels are Doing

As Seen by Two Cartoonists



—Atlanta Journal.

—Chicago Journal.

Federal Aid in Road-Building

THERE is just now a strong effort on the part of good-roads enthusiasts to foster a demand for federal aid in the construction of highways. We are all the time asking the general government for aid to some good cause, and the demands are increasing. In the nature of things these demands must some of them be denied, and others await their turn. In its advocacy of parcels post we believe this paper to be doing more for federal influence in the direction of good roads than we could do by urging actual appropriations of money for roads by this Congress. The States can handle the roads question after a fashion; they cannot handle parcels post at all. Given the parcels post, and the government would in the nature of things be forced to require the improvement of inferior roads as a condition precedent to the establishment of parcels-post service over them. And this would foster wholesome action—local action for local reasons—in road improvement. In our opinion the most effective aid to the good-roads movement which the automobile people could give—and they are the pushers for federal aid—would be given by getting behind the parcels-post movement and pushing that. After that has won, federal aid, if necessary, would be the next logical step—and it might not be necessary. Federal discrimination in favor of good roads might accomplish the whole reform.

North of the center line of Kansas, the best sweet sorghum to grow for forage is the amber, and south of that line the sumac. So the tests seem to indicate.

Belgian researches confirm the popular notion that very young veal is not fit to be eaten. It is low in food value, operates as a laxative and is believed to promote disease.

Coffee which gets wet is greatly injured. The damage is all the worse if the water in which it is soaked is sea-water. If your coffee has a musty taste, this is probably what ails it.

Showing Up the Dairies

AT GENEVA, New York, the authorities classified all dairies as "poor," where conditions were filthy; "medium," which meant dirty, merely; "good," which is Genevese for fairly clean, and "excellent," where they were really clean and actually sanitary. This classification was made public, and milk was bought and sold at prices graded according to it. At the beginning more than a third of the dairies were "poor," more than half only "medium" and only one in twenty was "good." There doesn't seem to have been any "excellent." At the end of a year of this publicity more than half had so far cleaned up as to be "good," and the "medium" had fallen to 38.2 per cent. By the end of the second year eight out of every ten were "good," and about one in ten "excellent." At the end of the first quarter of the fourth year, one dairy in every eight was "excellent"—that is, capable of producing absolutely sanitary milk. The "poor" and "medium" had all been wiped out, and all which were not "excellent" were "good."

We don't like to be shown up, do we? But isn't it good for us?

Absentee Landlords

MR. CHARLES S. BARRETT, president of the Farmers' Union, sees great danger in the acquisition of cotton-lands in this country by English syndicates associated with the British cotton-spinners, who expect to grow their own cotton for their own mills, and thus by ownership of American soil break the monopoly the American cotton-grower enjoys in the production of cotton.

He suggests as a remedy not any change in the land system under which these syndicates operate, but a forestalling of their operations by better and more scientific methods in the growing of cotton, in diversification and rotation of crops, and by the cooperation of all classes—bankers, merchants and farmers—in the matter of making each American cotton-planter, so far as possible, the owner of his own plantation.

Perhaps no better advice could be given, unless it were made to include basic readjustments of hands to lands. Absentee landlordism seems to us no worse when the landlord lives across the sea than when he is but five hundred miles away or even five miles. British landlords have adopted a much better system of regulations for the relation than we have ever hit upon. And those who study the question, as we are glad to see President Barrett is inclined to do, are respectfully reminded that a tenant-farmer is a tenant-farmer whether his farm is owned in London, New York, Chicago, the county seat, or by the man on the next farm. The main fact is that if he doesn't own it himself, the dice are loaded against him. What is needed in America, of course, is some plan by which every man owns his own land. Failing that, a system of stable and continued occupancy, with an interest for the tenant in the betterments he makes in fertilization and rotations, would be the next best thing. Given these, and where the landlord lives is unimportant.

One Farm Gains, One Loses—Why?

By D. H. Otis



THE farms under consideration are located in Wisconsin, in the same county, on the same kind of soil and are patronizing the same market. In noting the comparisons, the reader will bear in mind that the figures are not fictitious, but real. They are from the records of men who are now farming. And the farms are still being tilled—the methods of management, however, are now somewhat changed. The lessons are found in the figures given. It is interesting to note the capital invested in these farms:

	Farm No. 60	Farm No. 66
Land, excluding improvements....	\$10,600.00	\$12,325.00
Buildings and water-system.....	5,300.00	4,675.00
Machinery and equipment	1,050.00	1,110.00
Live stock	1,696.00	1,499.00
Total	\$18,646.00	\$19,609.00

Farm No. 60 has less capital invested in land by \$1,725, although more per acre (\$200 versus \$150), and less in machinery and equipment by only \$60, but it has more invested in buildings and water-system by \$625, where the principal difference is in the cattle-barn, and in live stock by \$197. In total capital, Farm No. 66 exceeds Farm No. 60 by nearly \$1,000.

The annual receipts on these two farms are as follows:

	Farm No. 60	Farm No. 66
Sale of crops	\$138.00	\$429.00
Sale of live stock	399.00	278.00
Sale of live-stock products	1,380.00	1,300.00
Increased inventory	605.00	1,730.00
Miscellaneous sources	20.00	176.00
Total	\$2,542.00	\$3,913.00

The receipts of Farm No. 60 exceed those of No. 66 in sale of live stock by \$121, and live-stock products by \$80, but falls behind in sale of crops by \$291, by increased inventory of \$1,125 and in miscellaneous sources by \$156.

In examining the differences more closely, we find that Farm No. 66 sold 24 bushels of barley, 100 bushels

A dairy farm of fifty-three acres makes an annual profit of four hundred dollars. A farm of eighty-five acres loses four hundred dollars. The two farms are here compared.

of rye, 200 bushels of potatoes, amounting to \$298. In addition, this farm sold \$15 worth of small fruits and vegetables and \$216 worth of lumber from the wood-lot. Farm No. 60 sold 18 tons of cabbage, 50 bushels of potatoes and 15 crates of cherries, amounting in all to \$138.

Farm No. 60 sold cows and calves amounting to \$199 and poultry amounting to \$200. Farm No. 66 sold cattle to the amount of \$145; hogs, \$64, and poultry, \$69.

The income from the sale of milk and cream is the same for both farms, \$1,200. The extra \$80, credited to Farm No. 60, for sale of live-stock products, is the result of selling sittings of eggs at fancy prices.

Under miscellaneous sources the owner of Farm No. 60 worked off the farm to the amount of \$20, while the owner of Farm No. 66 performed labor off the farm amounting to \$176.

The expenses of the two farms are summarized as follows:

	Farm No. 60	Farm No. 66
Stock purchased	\$65.00	—
Seeds	10.00	\$65.00
Feed	245.00	283.00
Supplies, taxes, insurance, repairs, etc.	297.00	377.00
Permanent improvements	450.00	1,530.00
Labor	136.00	1,102.00
Interest on investment	932.00	980.00
Total	\$2,135.00	\$4,337.00

Farm No. 60 purchased one grade cow and a couple of pure-bred roosters, while Farm No. 66 made no live-stock purchases.

Farm No. 60 seeded very little grass, while Farm No. 66 seeded much more, as indicated by the \$65 seed-bill.

The feed-bills are practically the same for grain, but Farm No. 66 had to buy about seven tons of roughage, against the other farm's three tons.

Under supplies, insurance and repairs the detailed record shows that Farm No. 66 paid \$200 for machinery and tools, compared with \$155 for Farm No. 60. It also shows \$40 expense for repairs, against \$35 for Farm No. 60, and \$82 for miscellaneous supplies, as against \$55.

Under permanent improvements, Farm No. 60 built a silo costing \$450, while Farm No. 66 constructed a dwelling costing \$1,500 and new fences amounting to \$30. All of these items are also included under receipts as increased inventory.

The most striking difference in the expense account is in the labor-bills, Farm No. 60 having only \$136, while Farm No. 66 expended \$1,102. The analysis of the labor expense is shown as follows:

	Farm No. 60	Farm No. 66
Cash paid for labor	\$20.00	\$280.00
Board of laborers	—	215.00
Labor of family at hired man's rate....	—	360.00
Extra expense for labor in silo-filling, thrashing, milk-hauling, etc.....	116.00	247.00
Total	\$136.00	\$1,102.00

Under the fourth item in the labor account, Farm No. 66 expended \$160 for lumber-sawing. It will be noticed that Farm No. 66 not only employed a regular man for most of the year, which, with board for laborers, amounts to \$495, but there is enough work put in by the members of the family to amount to the equivalent of another man, items for which Farm No. 60 had practically no expense. Farm No. 66 needs to study carefully the labor situation. This can be studied and handled from two standpoints: Either organize the work so as to handle the farm with less labor, or see that the labor is efficiently handled along productive or remunerative lines, so as to increase the receipts.

Summarizing the situation, we see that the loss sustained by Farm No. 66, as compared with Farm No. 60, is due to the following causes:

Interest on additional capital	\$48.00
Increased expense for seeds, feed and supplies..	173.00
Increased expense for labor	966.00
Total	\$1,187.00

This is partially offset by:

Increased sale of crops	\$291.00
Increased income from miscellaneous sources...	156.00
Total	\$447.00

Roots and Silage in the Sheep Ration

By T. R. Arkell

PROVISION of some succulent feed in the winter sheep ration is imperative, if the shepherd wishes to maintain his sheep in a healthy, vigorous condition. A sudden change in the fall from pasture to a distinctly dry feed, as hay and grain, the attendant, too, not infrequently neglecting the water-supply—is prone to be preserved. If a person were plunged suddenly with man a varied diet is essential, if perfect health is to be preserved. If a person were plunged suddenly from a diet of which fruit acted as a major part to one of meat and bread or foods of a similar nature, what would be the result? Everyone knows full well that it would lead to a depressed appetite, severe constiveness and perhaps chronic ill health. No one would wittingly indulge in such caprices obviously dangerous to their physical welfare, yet these same men forget that this criterion applies in similar fashion to sheep. In the winter, when the natural laxative effect of pasture is lost, a mixed ration must be provided. Therefore, some feed of a succulent nature should be given to supplement the grain and hay. This is most important at the beginning of the feeding period so as to avoid a sudden dietary change.

A Substitute for Pasture

Roots and corn-silage in the winter ration comprehend excellent substitutes for the succulence of pasture. Both are of a highly watery nature. The water content of roots varies from 85 to 90 per cent.; of silage from 75 to 80 per cent.; hay and grain on an average contain respectively about 10 and 14 per cent. water. Since fresh grass possesses approximately 80 per cent. water, the necessity of supplying conjunctively with the hay and grain some feed less concentrated is apparent.

Where roots can be grown successfully and cheaply, as in the Northern and New England States, they can be used most economically in the ration. There are several kinds more or less satisfactory, the most important being turnips (Swedes or Rutabagas and Fall White), mangels and sugar-beets. Of the foregoing, Swede turnips give the best results. They are more substantial and not so excessively watery as the Fall White, and, besides, they can be preserved in a better condition throughout the winter. Mangels and sugar-beets cannot be fed with as great a degree of safety as turnips. This applies expressly to rams, as both mangels and sugar-beets are conducive to the deposition of small stones or calculi, composed chiefly of calcium sulphate, in the kidneys, bladder and urethral tract. Frequently the calculi may attain sufficient size to obstruct the urethra completely, thus causing the certain death of the ram. Ewes, owing to a larger urethral opening, escape this danger, although they may suffer from renal and bladder disorders which, however, are never fatal and, in fact, to the shepherd seldom, if ever, noticeable. Turnips apparently have no such ill effect and can be fed with impunity under virtually every condition.

Roots in the winter ration materially reduce the cost of mutton production. At New Hampshire Experiment



Station a rather elaborate feeding test in this regard was performed with turnips. Several lots of sheep were selected. Some were fed a completely dry ration consisting of grain and clover-hay; others, turnips in conjunction with a similar grain and hay ration. The amount of grain and clover-hay, however, in the latter instance was reduced to correspond in cost of ration to the former, so that in as far as expense was concerned both rations were on an equitable basis. The cost of each ration amounted to three and one-half cents per day. Lambs on the dry feed made an average daily gain of .29 pounds, while those on the turnip ration exceeded this by .08 pounds, or made an average daily gain of .37 pounds. It cost \$11.96 to produce 100 pounds increase in weight where dry feed was given; in the other, only \$9.60.

The Real Value of Roots

Mangels and sugar-beets were compared with dry feed at Iowa Experiment Station. Similar results to those obtained for turnips in New Hampshire were discovered. These in summary were that the lambs getting sugar-beets made the largest total gain and matured more quickly than the others. They also carried a better bloom and finish. At Michigan and Utah Experiment Stations dried beet-pulp was found to have almost equally as good effects; at any rate, lambs receiving grain mixtures containing dried beet-pulp produced greater gains at less cost than proportionate amounts of grain alone. The foregoing comparative statements should afford ample proof of the value and advantage of roots in the winter ration.

Corn-silage gave most favorable results in a three-year feeding test at Indiana Experiment Station. Pregnant ewes and lambs were fed heavy silage rations, while others of like type and age were placed on a distinctively dry feed. The pregnant ewes on the silage rations gained on an average for the three years 20 pounds during each winter, whereas those receiving similar rations without silage gained only 15½ pounds. Besides, they consumed 7.6 per cent. less grain and 32.25 less clover-hay than those eating the dry feed. Ewes, with fall lambs at their sides and receiving silage, gained on an average for two years 25.3 pounds, while those eating the dry rations gained scarcely 16 pounds. The former ate 4.82 per cent. less grain and 29.86 per cent. less clover-hay than those not receiving silage. Silage in all instances, with aged sheep enhanced economy of mutton production, although with lambs the distinction was not so marked. All of the sheep were fond of it and ate greedily. Corroborative results, although not so pronounced, were also obtained at the Iowa station.

Avoid Overfeeding

A comparison of roots with silage was made some years ago at the Michigan station, the results showing a slight advantage in favor of roots. The gains in weight of the turnip-fed sheep were slightly greater and were produced at a somewhat less expense.

Overfeeding of both roots and silage should be avoided. It is in this respect that the chief danger in their use lies. These products, on account of their watery nature, are not in themselves substantial feeds. When extravagantly fed, they are apt to render the ration too laxative and produce scouring. Besides, to pregnant ewes overfeeding will frequently cause them to bring forth lambs that are flabby and weakly. Abortion may even be caused. Six pounds of roots per day will comprehend a heavy feed, and three to four pounds will constitute a good average. Sheep, if given silage in abundance, will consume as high as 4½ pounds daily. Three pounds should be a safe limit. However, silage moldy, sour or badly decomposed should not be given, for in this condition it contains products distinctly poisonous to the sheep. Indigestion and scouring may be the result, and in some cases, especially with lambs, death. However, as to amounts of feed, no set or fast rule can ever be given. The feeder in this respect must always use his own judgment and discretion.

In fine, some succulent feed should be supplied with the hay and grain in the winter ration to preserve in it the laxative effect of pasture. Roots and silage in this regard serve an excellent purpose. They reduce the cost of mutton production, aid in the digestion of the fibrous foods and keep the sheep in a healthy and vigorous physical condition. The use of one or the other will depend entirely upon the relative cost of production. Where roots can be grown economically, their use over silage is recommended, but in the extensive corn-growing States silage, if wholesome, can be fed most successfully and profitably.

What Breed Do You Like Best?

By F. B. Havens



THE interest in standard-bred poultry is becoming so prevalent in farming communities, where little or no attention had been given to that branch of the industry until recent years, that the city-lot fancier is waking up to the fact that some of his strongest competition in the showroom is found in the birds bred, raised and exhibited by his rural cousins. As a matter of fact, the farmer has every advantage over the city man when it comes to raising first-class exhibition specimens for the showroom. The young birds are not necessarily hatched so early on the farm as in the city. The early May-hatched farm chick will, as a rule, develop as good size and feather for December shows as a city-raised bird hatched in March. Early June-hatched chicks, if farm-raised, frequently are the best exhibition specimens for January shows. It is the free range, plenty of shade and easy access to pure water during the hot summer months that turn the trick. The kind and quantity of feed thrown out to growing chicks makes no material difference with their growth and development so long as they have unlimited range for insects, which is their natural plan of living. We have seen broods of splendid birds, so far as breeding is concerned, raised in a park on a town lot where they were pampered and stuffed with all the highly recommended commercial chick-feeds and "force feeds" obtainable, but they were generally worthless as show birds or breeders, because they were deprived of the exercise and conditions that nature provides for young birds on free range. So it is apparent that the farmer can raise better poultry than the city man if he will exercise the same care in selecting his foundation stock.

Every breeder of standard-bred horses, cattle, sheep, hogs and poultry usually has his preference for some one breed that particularly strikes his fancy, or that appeals to his sense of business judgment as being best adapted to his own requirements and at the same time having a utility value that there is ready market for. There is a growing demand for standard-bred poultry, particularly of the breeds commonly known as the "utility breeds," or those breeds coming within the American class; namely,

Plymouth Rocks, Wyandottes, Javas, Rhode Island Reds and Buckeyes. The universal favor that the American breeds hold is attributable to the fact that in them are combined the two great commercial features of all the poultry industry, egg production and the meat. The Mediterranean class—namely, the Leghorns, Minorcas, Black Spanish, Anconas and Andalusians—are unquestionably the greatest egg-producers under specially favorable conditions, while as market poultry they are not generally considered profitable.

If we were to venture a statement as to what breed or variety of breed a farmer would most successfully breed to standard requirements, we would say, "The breed he likes best." Breeding fancy poultry to win the coveted prizes in the great poultry shows of these times is reduced to a fine art, and the artist must necessarily be in harmony with the model of his choice in

their better breeding, raising and conditioning. Many of the famous winners are produced on farms where they have superior advantages for developing every atom of size, style and finish in their breeding. The farm being the logical place to produce the best birds at least cost, it is reasonable to assert that a farmer should choose the *birds he likes best*—let the variety be one that he is most familiar with, and he is then better equipped to compete for honors in the showroom than the town-lot breeder.

The single and double mating question has created much argument in the poultry press since the time that double matings came into general practice about a decade ago. Double mating is of late being followed quite successfully by some breeders of the solid-color varieties in order to produce birds of the opposite sexes with a certain desired type (shape), while with the parti-color breeders it has been a well-established custom for many years to double mate for distinctive markings and color-schemes in the sexes. Judging from the rapid progress made with all the popular breeds and varieties in the past ten years, it is a safe conclusion that double matings are responsible for much of the improvement.

Perhaps most failures in the standard-bred poultry business come from scattering the efforts on too many kinds of fowls and changing from one breed to another before mastering a thorough knowledge of any. If one will devote all his energies and skill to breeding the one variety of fowl he likes best, and not dabble with this and that new fad that comes along, he is pretty sure to be successful. And it is bound to follow that his reputation as a producer of strictly first-class specimens will create a demand for his stock at good prices. To sell the birds will not involve a large expense through advertising in the poultry-press mediums, as many who are unfamiliar with the business are inclined to suppose. The fellow who makes the biggest noise about his stock in the poultry press usually has the least actual value to offer his prospective customers for their money. Exhibiting at the fairs and poultry shows is one of the greatest educational means for the breeder of standard-bred poultry, and it is bound to [CONCLUDED ON PAGE 11]



A flock of profitable poultry

order to work the finished product out most successfully. The superb winning specimens are not chance birds that just happen to excel in the finer points of beauty characteristics that most nearly approach the ideal of perfection. The great winners are not mere accidents. They defeat their rivals in the showroom because of

Use Phosphorus

By E. W. Gaither

THE idea that farm manure is the ideal fertilizer is one that is very prevalent over the country and one that should be corrected.

It will be noticed in a great many localities where large quantities of manure are used, that the crop will begin to fall off in yield, but still look fine in growing. It goes too much to "weed."

This condition is usually due to an excess of nitrogen and a deficiency of phosphorus, brought about by the ratio of nitrogen, phosphoric acid and potash to each other in manure, which is about 2 to 1 to 2, as here shown:

	Nitrogen Lbs. per Ton	Phosphorus Lbs. per Ton	Potash Lbs. per Ton
Cattle-Manure....	12.02	6.06	11.08
Horse-Manure....	13.90	4.96	15.32
Sheep-Manure....	28.80	10.18	24.22

The relative amounts of these substances contained in manure led to a series of experiments being started to determine the effect of adding enough phosphoric acid to make up this deficiency. These experiments, designed by Director C. E. Thorne, have been in progress at the Ohio Agricultural Experiment Station for thirteen years, and the results will be seen in Table I. Table II. shows the composition of the manure, used in these experiments, expressed in pounds per ton and showing per cent. of loss due to three months' weathering, with value of fertilizer constituents per ton.

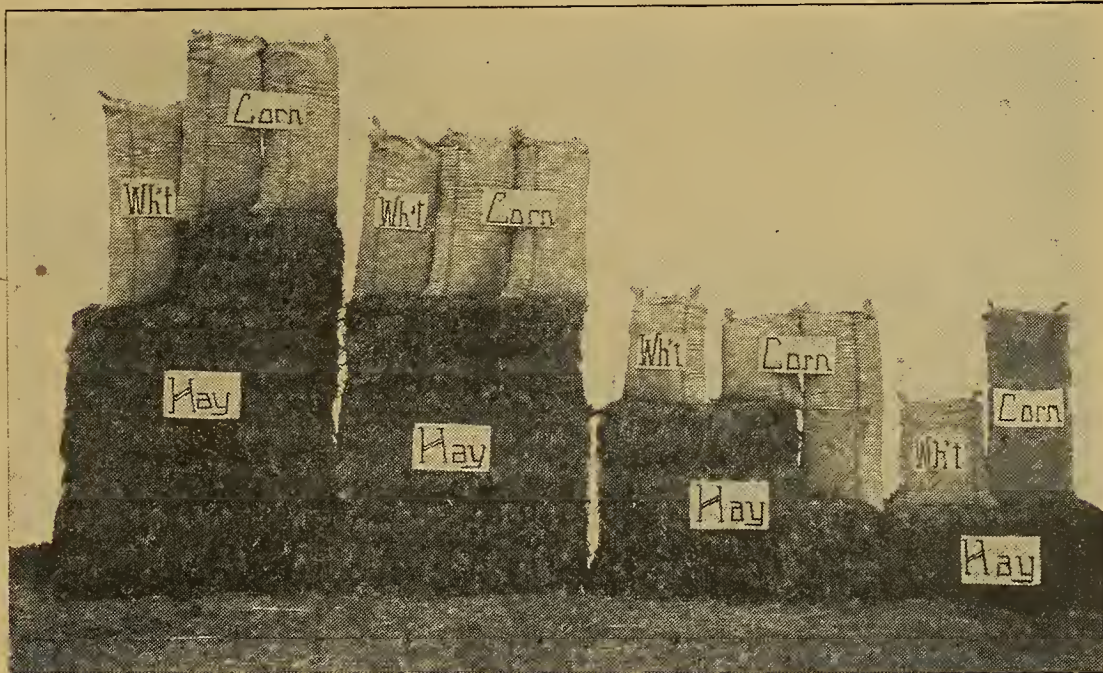
By comparing the commercial value of the manure with the increased yield per ton for each treatment, it will be seen that there is a very close relation between them.

The manure used in these experiments was cattle-stall manure. It was taken from the stalls, mixed and divided into 1,000-pound piles; two piles were treated

with 40 pounds of floats per ton (ground phosphate rock), carrying 28 per cent. phosphorus; two with 40 pounds of acid phosphate per ton (14 per cent. phosphorus), and two not treated. One, each, of these piles was spread upon the plots, at the rate of 8 tons per acre, and one, each, left to weather from January 1st to April 1st, when these weathered piles, designated as yard manure, were taken up and spread upon the plots at the same rate. The results shown in Tables I. and II. give a good idea of the value of reinforcing manure with phosphates.

Boiled down, they show that the net profit from a ton of untreated manure is 58 cents, after allowing \$2.36 for the manure; that from the treated \$1.89, after allowing \$2.33 for the manure, and 24 cents per ton for treatment, leaving a clear net profit of \$1.31 to pay for the trouble of adding the phosphate to one ton of manure.

Having proven that it pays to reinforce manure with phosphates, the question presenting itself is: How is the best and most economical way to add this phosphate?



Increase from one ton of stall manure reinforced with 40 pounds of 14 per cent. acid phosphate Increase from one ton of stall manure reinforced with 40 pounds of floats Increase from one ton of stall manure untreated Increase from one ton of yard manure untreated

We would advise the keeping of a bag of 14 per cent. acid phosphate or finely ground phosphate rock in the feed-room and sprinkling one pound per day of the phosphate over the manure for each horse or cow, or one pound for six sheep.

No harmful results have been noticed upon the hoofs of the animals resulting from the use of phosphates in the stables.

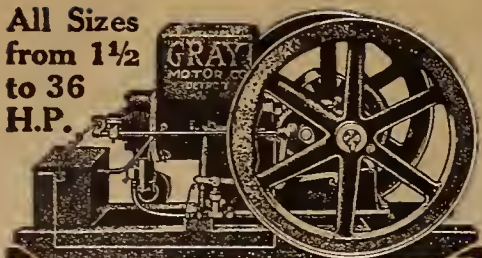
If the addition of phosphates has to be done after the manure is ready to spread, use 40 pounds of acid phosphate, floats or bone-meal per ton of horse or cattle manure, and double this amount for sheep manure.

Table I.—Barn-Yard Manure Used in Three-Year Rotation
Average Annual Increase and Its Value (Excluding Corn Crop of 1909)

Plot Number	Manure and treatment	Average annual increase per acre					Cost of treatment per acre	Value of increase	
		Corn 13 crops		Wheat 13 Crops		Hay 10 Crops		Total per acre	Net per ton of manure
		Grain Bus.	Stover Lbs.	Grain Bus.	Straw Lbs.	Lbs.			
2	Yard manure and floats.....	24.08	1,136	12.98	1,266	1,605	\$1.40	\$29.40	\$3.50
3	Stall manure and floats.....	29.78	1,481	14.97	1,541	2,418	1.40	37.32	4.49
5	Yard manure and acid phosphate....	29.46	1,262	15.08	1,499	1,925	2.40	34.94	4.07
6	Stall manure and acid phosphate ...	33.57	1,495	16.17	1,694	2,644	2.40	40.87	4.81
15	Yard manure, untreated.....	18.30	762	9.99	965	804	.....	20.63	2.58
16	Stall manure, untreated.....	23.59	1,102	10.62	1,107	1,427	.....	26.54	3.32

Table II.—The Value of the Manures

Manure and treatment	Total Phosphorus	Water Soluble Phosphorus	Total Potash	Water Soluble Potash	Total Nitrogen	Water Soluble Nitrogen	Value per Ton
Stall manure and floats.....	12.80	2.72	12.93	11.59	13.12	5.99	\$3.10
Yard manure and floats.....	12.22	2.33	8.71	7.79	8.71	1.97	2.20
% Loss 3 months' weathering.....	4.47%	14.61%	33.14%	32.18%	33.61%	67.61%	.....
Stall manure and acid phosphate	9.16	3.66	12.72	11.87	13.18	5.79	2.99
Yard manure and acid phosphate	7.60	2.24	7.88	7.26	9.02	1.84	2.00
% Loss 3 months' weathering.....	16.50%	38.80%	38.02%	38.92%	31.55%	50.95%	.....
Stall manure, untreated.....	5.24	2.10	13.43	12.38	13.50	6.12	2.92
Yard manure, untreated	3.76	1.70	6.57	6.06	8.71	2.32	1.81
% Loss 3 months' weathering.....	38.07%	18.66%	51.05%	51.06%	35.62%	62.07%



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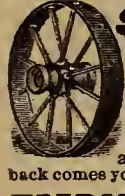
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The Market Outlook

Sheep Promising

THE close of January, after considerable fluctuations during the last two weeks of the month, found prices in the principal markets about as follows: In Chicago, lambs, \$4.50 to \$6.75, weights ranging between 30 and 95 pounds; ewes, \$2.50 to \$4.50; yearlings, \$4 to \$5.80, but very few of them at the lower prices. Some shorn 80-pound yearlings went at \$5. But few wethers were offered, and these were sold at from \$4.50 to \$5. Receipts were larger, and quality not quite as good as was hoped for.

In Buffalo, New York, top lambs weighing from 80 to 90 pounds and very desirable in every respect went up to \$7.35, but the general run of good to choice commanded from \$7.25 to \$7.30; fair to good, \$6 to \$7.15; culls and common, \$2.75 to \$5.75; yearlings, from \$3 to \$5.75. The demand for these classes was very brisk. Sheep as usual ranged a little below Chicago.

In Kansas City the highest price recorded in lambs was \$6.40, ranging downward to \$4.65. Feeders, in which there is generally both a good supply and a good demand in this market, weighing around 60 pounds, went at \$5.30. All western markets, however, reported a dull, sluggish trade during the last weeks of January, livening up in February.

Expert writers on sheep are, generally, beginning to congratulate their readers on what they regard as the permanent turn of the tide toward high prices, but I feel inclined to go a little slowly as to this, for I do not think that any conclusion as to the probabilities of the trade during 1912 can safely be indulged in before late in April. Some very desirable lambs—really they are yearlings—are already showing in Chicago and selling over the \$7 mark, and there is no way of knowing the numbers of this class that are being fed. Colorado certainly and perhaps, though not so extensively, other western States are feeding largely, and those in the business seem to have taken their late lesson to heart and are not going to send their lambs, in half fitted. Should this supply of really high-class western lambs continue late into the spring, it is bound to keep prices down to somewhere about what they are now. If it holds them to that, there will be nothing to complain of, for the man who can't make a good profit at \$7 has mistaken his calling and should try—let us say—dry-goods.

Though the wool trade is in a very satisfactory condition at present, and the tariff board's recently issued report seems to prove protection necessary, the action of Congress both as to when it may see fit to take any, and what it will eventually be when taken, is something which no fellow can foresee. The American Sheep Breeder and Wool Grower had taken immense pains to get the opinions of leading men all over the country and in every branch of the trade, and it publishes hundreds of replies to its questions. It says: "Many of the replies received so far do not mention the tariff board's report, but urge early action in the tariff question. A majority of those who do refer to the report, endorse it. There are a number, however, who do not support the figures given by the board in connection with the cost of wool production. We are inclined to believe, however, that after a more thorough investigation of the system employed in arriving at these estimates the growers will have more sympathy with the conclusions reached." I quite agree with this opinion of the Breeder, which I generally find especially worthy of belief. If these ideas are correct, I fear we shall have to wait some time longer for a permanent settlement of better times in the sheep-market, though it is bound to come sooner or later. JOHN PICKERING ROSS, Illinois.

Hog-Market Healthy

THE midwinter months are usually expected to produce the heaviest market-ward movement of hogs of any time during the year, and this season has been no exception. As the winter advanced, receipts gradually increased, until they exceeded the general expectation, and moderately heavy runs are expected for a short time at least.

The general condition with the producer has been that of a scant supply of feed, and a large number of hogs to eat it at a small or doubtful profit, with severe weather to remove much of the gain put on. This has caused wholesale liquidation as soon as hogs have attained a moderate weight. This liquidation reached titanic proportions during January, and the month closed with one of the heaviest totals on record. The eleven leading markets received nearly one million more hogs during that month than for the corresponding period one year ago. At South Omaha and Sioux City new records were made for a single day's receipts, and Chicago's largest day was only surpassed by two other runs. During the periods of car shortage caused by the cold weather, re-

ceipts were lessened, but at every relief hogs literally poured into the stock-yards of the packing centers. Such an uncertain supply produced an erratic market, and often it was difficult for those concerned to accurately determine the actual conditions as they existed. Often fluctuations would occur in a few hours because of the difference between actual receipts and the estimates.

Prices usually make a decline proportionate to the size of the run, but such has not been the case lately. Under the stress of the heaviest receipts the prices have gone down 5 cents to 10 cents, but this loss would be regained on a day of moderate receipts which, during average marketing, would be a heavy run. During the month of January, the sellers gained from 10 cents to 20 cents on the whole, although, as was before stated, the receipts for that month are among the heaviest on record.

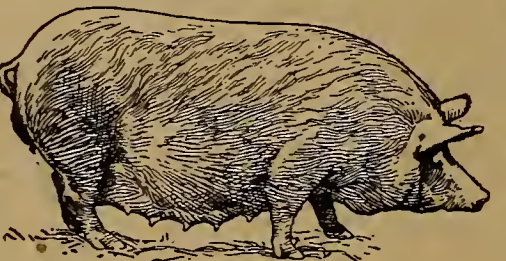
The killers consider that packing, at present prices, is profitable and show a desire to fill their cellars with pork as fast as the hogs appear in the stock-yards, and buy everything suitable to their needs. As an example of this, on Chicago's biggest day Armour purchased about 14,000 head, paying an average price of \$6.13. The demand for hogs cutting up into fresh pork is not as good as it might be, as the demand for fresh meat hardly equals the supply of live hogs of that class.

Since the first of the year eastern demand has generally been strong and export demand for meats has slightly increased. These, coupled with the strong domestic demand of the killers, great and small, have kept the market on a steady, healthy basis excepting during a few days of severe cold when traffic was demoralized. This is the season when the great meat manufacturing industry fills its cellars, and it is prepared to handle any supply of live stock which may come to the yards. While they buy with their own interests in view, they know they must buy when the supply is to be had and must not fight the price to their own exclusion, or, as the old saying has it, "they must make hay while the sun shines."

Somewhat lighter receipts are expected for March, with a corresponding raise in price, and as the spring field work comes on in April, the bulk of farmers will be too busy putting in their grain to haul hogs to town, and the market should continue its usual course at that season with lighter receipts and advancing prices.

LLOYD K. BROWN, South Dakota.

BERKSHIRES EXCEL FOR FAMILY PORK



Sole and Type of Swine.

THIS illustration appeared in a local newspaper which was sent us. It appeared just as you see it—headings, titles and all. The humor of the situation warns anyone against trusting agricultural items which have been written by other than real authorities.

Is it Best to Sell Now?

FAT cattle selling at present prices even with the high price of feed ought to and do pay, and yet the impression among cattlemen is that they will sell higher in spring and summer. As a general rule, whenever everyone figures this way there is disappointment, and the same thing for any man to do who has cattle is to sell whenever there is a profit. The greater advance may come, but remember there is a limit to what the consumer will pay, and the chances are, greatly in favor of a switch to pork and mutton and a corresponding advance in these products. Cattle feeders generally know that it does not require as good cattle in May, June and July to sell high as it does in the winter months, and cattle feeders also ought to know that the greatest gain on cattle is made in the first ninety days' feed. So that anyone having suitable steers now which can be marketed at a profit can afford to sell and start in again on fresh cattle. This is the time of year to start feeding dry cows and heifer stuff, and they do not need to be extremely fat to sell high just before grass cattle come on the market. Don't figure on selling just to get them out of your way for spring work. Keep them until July 1st if necessary. With the high prices now prevailing for hay it is often possible to utilize and feed up old straw-piles at a good profit, provided two pounds per head daily of oil-meal or cotton-seed is added. Everything looks healthy for the man who is going to be able to see this winter out and carry his stock through, but there are thousands who must sell long before grass comes, market or no market. We ought all to learn a lesson, never to be forgotten, from this hard winter, and that is to take better care of our waste roughage, remembering that what is left over is by no

means lost. It is a good asset which can be used next year if necessary. There are thousands of farmers now getting short of roughage who might have had plenty if they had spent a day or two cutting up corn-fodder.

W. S. A. SMITH, Iowa.

Cold storage or the refrigerating system is a permanent thing, and, if managed wisely, should not be an object of criticism. The tendency of the system in a general way is to steady the market.

Marketing Eggs and Poultry

How to Secure the Highest Prices and Keep Customers

THE one great object in poultry-keeping, as in every business, is profits. Best profits usually come from best prices; and best prices come from a good market.

This being the fact, the securing and keeping of a good market for one's produce should be the poulterer's aim, and to succeed in it several things are necessary. A few of the more important ones will be mentioned in this article.

(1) *Superior product.* If we expect and request better prices than we have had in the past, or better prices than others receive, we must produce the goods. This is a natural business law. However, it is a law that our system of handling produce often overlooks, because we know many people who now market a very superior article of eggs, butter or similar produce, but who are not being paid any more for their product than others that furnish a very inferior article. Such sales never produce satisfaction and are a just cause for complaint, both to the customer and to the producer.

(2) *Neatness and cleanliness,* both in product and package. Good prices are governed more by looks from the outside of the eggs and the poultry than by quality of the eggs inside. This ought not to be, but it is a fact. Very few dealers, commission men or consumers ask or care how the eggs are produced, so long as they look well. As a matter of fact, the quality of the egg and of the fowl depends upon how and what the birds have been fed. This fact is scarcely ever noticed.

(3) *Fill a present demand, or create a new one.* This may seem a bit ambiguous. New York markets demand large-sized white eggs of even size and color for highest prices. Of course, in the quotations we note that "select henner" or "first from henner" terms are used, but do these terms mean very much? What is most essential for good price to-day is a good-sized white egg. Boston gives preference to good-sized brown eggs, etc. Now if we desire highest prices, we must cater to their desires in the market where we sell. These facts are generally known, and everyone caters to them, with the result that prices are not very good after all for the producer, though we are told the quality of our city egg and poultry produce is steadily becoming worse, instead of better.

If the new demand which has recently arisen is observed by our poulterers, and they fill it satisfactorily, prices will be better and the consumer will soon show his appreciation.

The difference of quality has been so great when judged from looks alone that there is coming a general revolt against this produce from the consumer. Heretofore the dealer or commission man has been the one to say what the price or quality should be and what the producer should receive for it. Now the consumer is waking up to the fact that it's his money that pays for these things, and he is going to see that he has a say in the matter.

The consumer in 1910 paid over \$750,000,000 for poultry and eggs for food under the outside value system; he found many times that he paid too much for looks and not enough for food value. The producer got about half the above price for both looks and value. The country press has been making this point clear during 1911, and the producer and consumer both begin to see that outsiders are more interested in the matter than they themselves have been, and are now seeking a remedy. The best one so far for the above faults is more direct buying and selling between producer and consumer.

Hence, any poulterer who desires to get the most for his produce in the future will do well to look into these facts. Every time an article passes through an extra hand the cost is increased. The consumer must pay it, but the producer will get none of this extra cost. It is plain then that the best thing for both ends of the industry is to get closer together in dealing. Many things have been suggested, but I believe the safest and sanest way is to follow the plan that has been used for years by breeders of fancy poultry and which to-day equals in money value all our market-poultry sales. *Advertise your goods,* and live up to the advertisement.

There is a far greater demand for market poultry and eggs than for fancy. The fancy trade, however, has increased until there is a scarcity every year, though the sales amount to millions of dollars. The market trade can thus be established between producer and consumer at good prices, and satisfaction guaranteed. O. F. SAMPSON.



Why Yesterlaid Eggs Bring Fifty-Six Cents

By Fred Grundy

DURING the past two years the writer has visited several much-advertised egg farms, and poultry farms and yards in different parts of the country, chiefly for the purpose of ascertaining whether these establishments are what they are advertised to be, and also whether certain ones are actually making the immense profits they claim to be making. The information thus secured is worth all it cost.

It is a little difficult to pull the wool over the eyes of one who has been a practical poultryman thirty-two years, and the peculiar treatment the writer met with at three of the "plants" did not prevent him from ascertaining the fact that they are comprised chiefly of hot air, a multiplicity of coops and other paraphernalia and mystery, and that the wonderfully great profits claimed are fairy dreams.

A glance and a listen is sufficient to satisfy a skilled engineer whether an engine is running perfectly, and an experienced poultryman does not need to ask many questions about things that are plainly visible to learn how they are working. For instance, at one furiously advertised hatching "plant" in an eastern State the writer was shown nearly a thousand chicks a few days old in brooders, and while he was there quite a number of them were sold to people who called for them. A large number of them were already attacked by that chicken scourge, white diarrhea, and it was plain that it would be next thing to a miracle if any of them were alive a week later. The manager was a very supercilious young man. The matter of disease was not discussed. However, the "plant" shut down, presumably for repairs and disinfection, soon after my visit, and remains shut to-day.

The Barnum Poultry Spirit

At each plant it was made clear to the management that it was not idle curiosity that prompted the visit, but a search for information that would be of benefit to thousands of other poultry-raisers to whom it would be given freely; and at all the plants, except those composed chiefly of hot air, the writer was treated with the greatest courtesy, being shown over the buildings and yards by an intelligent man or woman, and everything was explained in a clear manner. The writer has always made it a point to ask questions and listen carefully to all explanations, but never to offer suggestions or advice unless especially requested to do so. Most poultrymen have pet ideas of their own and do not like to have them criticized. At a few of the plants a guide was furnished for a healthy consideration, and this chap professed to be totally ignorant of everything but what was plainly visible, and he led the visitor about at a lively gait and gave out no information whatever. This was the method of procedure at all the hot-air plants, where things were fixed to impress the visitor rather than for profitable results. At these "plants" the Barnum spirit predominates, and Brobdignagian tales of profits are printed and sent to the unsophisticated.

November 23, 1911, the writer was requested by the editor of FARM AND FIRESIDE to pay a visit to Yesterlaid Egg Farm, one of the most noted poultry-farms in Missouri, located near the town of Pacific, in Jefferson County.

I went at once, and found this to be a genuine poultry-farm, run for profit, and not for show. The farm is located on the bluffs above the pretty Meramec River, two miles from the town. It comprises about fifty acres of rolling land. A better location for a poultry-farm would be hard to find. It is in charge of Mr. R. C. Lawry, a graduate of Cornell College and one of those wide-awake, enterprising young men who can be relied upon to make a thing go if there is any go to it. His management of this farm is as much superior to that of most of the eastern farms and plants the writer has inspected as could possibly be imagined. He is a thorough poultryman, and in his management does not leave

anything to chance. There is no guesswork, no theorizing. Everything is reduced to a scientific system, a practical method. He knows what he is doing and what to expect from the work. Everything about the plant is arranged to save steps and labor, and one man can accomplish more in a day than six could on a theoretical plant scattered over wide fields, and more than a dozen could with a multiplicity of coops.

What Makes the Plant Practical?

In one building is gathered the principal parts of the machinery required: feed-cutters, grinders, gasoline-engine, water-tank, pump, horses, cows, vehicles, etc., with hay, straw and feed overhead. The feed for the animals is in large hoppers which are filled from the upper floor, and all the attendant has to do is to open little sliding doors and let out the proper quantity and give it to the animals close by. Carpenter shop and tools are handy so that coops, runs, colony houses, etc., can be made at any time at a minimum of cost. Everything is as convenient as good planning can make it. There is nothing scattered around at this farm. When any article is wanted, everybody knows where it is. When done with it, the user promptly returns it to its place.

Yesterlaid is a White Leghorn farm. This variety was chosen, because it is a non-sitting egg producer. The original stock was purchased from the best breeders in the United States, and they have been so carefully bred and culled that in all the three thousand hens and pullets on Yesterlaid poultry-farm there is not one that any poultry judge would disqualify. Hundreds of them are perfect beauties, white as snow, and with all the characteristic markings that go to make the highest standard Leghorns. Mr. Lawry thinks that beauty need not be sacrificed in breeding for utility, and that the combination of both in a high degree makes a perfect fowl.

The incubator house, or cellar, contains a great incubator of six-thousand-egg capacity. Eggs are put into this machine once a week, so that chicks are coming out all the hatching season, which extends from January to autumn. One man can take care of this machine and can know exactly what is going on in each tray—when the eggs were put in, when they require moving or turning, what the temperature is and when the chicks will appear. A full and complete record of all work inside and out of the building is kept on dated tablets hanging in each building. These go to the manager at the close of each day, so that he knows every item of what is done each day.

The newly hatched chicks are transferred to a nursery connected with the incubator until they become somewhat hardened and can use their legs. Then they go to the brooders in the brooder-house. This is a building 230 feet long and has a capacity of 13,000 chicks at one time. It is fitted up with two hot-water pipe-system brooders, one on each side of a center aisle, with separate hovers. The hovers are round with curtain of cloth reaching to the floor. Each rests on a wooden pin which comes up through the center. They can instantly be lifted off when the floors are to be cleaned. Back of each hover is a little yard with concrete floor for the chicks to exercise in. Each yard is well littered with clean straw. The chicks pass to the yard through a little gate which can be instantly closed to keep them back there while the hovers are being cleaned. Many windows along the side of the building let in an abundance of light, and the room is kept comfortably warm all the time, while the ventilation is such that the air is fresh and pure. There are no fumes of kerosene to fill it with poisons, as in all incubators and brooders heated by lamps.

Food and pure water are before the chicks all the time. Both are supplied in metal troughs which are easily cleaned. The food consists mainly of grains of different kinds cracked small and fed dry, and the chicks thrive remarkably well. Water is carried throughout the building by pipes, and the water-troughs can be filled rapidly. There are also tanks of carbolic disinfecting solution with hose and fine sprayers attached. The floors of the hovers are sprayed in a second when they are being cleaned out.

The chicks remain in these brooder-houses until well feathered, when the sexes are separated. The females are removed to the range houses and yards, which have raised board floors and are light, dry and animal proof. They remain there until they become thoroughly accustomed to their quarters and then they are allowed to ramble over the fields and grow into the sturdy hens that are making Yesterlaid famous the country over.

The cockerels are carefully sorted. The very best in shape, color and vigor are reserved for breeders and placed on range apart from the pullets to develop into the hardy, vigorous birds that may be shipped to any State. The culled-out cockerels are milk-fed and pushed along rapidly as possible and marketed when eight to ten weeks old. They bring something better than the top prices paid for best broilers.

The pullets on range are well fed all the time, and as soon as they reach the laying age—which is between four and five months—they are rounded up and put into the "hendwels," or laying houses, five hundred in each room. There are two "hendwels" in each building.

This is the first plant the writer has visited that practises what he has preached for more than twenty years: Never to expose laying hens to stormy or very windy weather. The hens at Yesterlaid are allowed on range only in pleasant weather. They are egg-machines, and are kept tuned up to the highest degree of efficiency.

The buildings in which the layers are placed are two stories high and are divided across the center by a hall and stairway leading to the second floor, where the hens roost at night. They ascend to their roosting-rooms by means of a wide ladder, or stair. This is swung up with rope and pulley in the morning when the hens come down, and is kept up until roosting-time in the evening, when it is let down, and they quickly run up to their sleeping-quarters. There is no chance for them



The breeding hens are given plenty of range

to loaf around on the roosts during the day. The rooms are light, airy and comfortable, and the concrete floors are kept well covered with clean straw, into which various kinds of grain is scattered to induce the fowls to exercise. Along the walls are boxes of nests, each box containing about a dozen separate nests with a passage along the wall. The hens enter the boxes at the ends and are secluded from those in the room. When the writer raised the sloping covers, he saw a lot of big, fine-looking eggs in each nest. The nests have bottoms of wire poultry-netting, and all broken straw and trash falls out and is replaced with clean straw. This keeps the nests always clean.

Fresh Eggs are in Demand

Leghorns are generally supposed to be rather wild and easily frightened, but these are as tame as Brahmas. Just before opening the door of their room, the manager whistled, and when we entered, scarcely a hen noticed us, but a sturdy cock came bristling toward us prepared to do battle. The birds are watered by means of a fount, which is automatically kept full. Their ground food, consisting of a mixture of meals, is placed in great hoppers holding several hundred pounds, which are filled from the upper floor. The hens have access to this food all the time. Grit and crushed shell are also supplied in large hoppers.

There is a large oat-sprouter in the brooder-house, but it has never been used. The writer is of the opinion that if it ever is it will soon be returned to "innocuous desuetude" by the practical manager. He has found that mangels, turnips and beets are good enough for winter succulent food. The writer has found nothing better, except it be nicely cured clover-hay steamed and mixed with meals.

The principal business of Yesterlaid Egg Farm is the production of guaranteed high-class market eggs. When the writer was there November 23d, the manager was getting fifty-six cents a dozen for all he could supply. And the constant call was for more. The reason he is getting about double regular market prices is because the eggs are known to be first-class in every respect and absolutely fresh. They are packed in cartons holding one dozen, and the cartons are sealed with a Yesterlaid Farm seal. The eggs cannot be tampered with except by destroying the seal. When President Taft visited St. Louis, the eggs for the [CONCLUDED ON PAGE 10]



Large and well-ventilated buildings are important

Poultry-Raising

Profits from Poultry

SO MUCH romance has been written about the hen, so loudly have her praises been sung and so accustomed are we to hear of her virtues in the superlative that a conservative tale, even if true, is likely to be not only plain and unvarnished, but almost unnatural in its realism.

Before me is a little book, entitled "The Million-Dollar Hen," which reads thuswise: "A good hen in a year will lay 200 eggs. If these eggs are set, we will have 200 chicks. Each of these will lay 200 eggs the second year, which will mean 40,000 chicks worth 50 cents apiece, or \$20,000. Thus the profit from a flock of 50 hens at the end of two years would amount to \$1,000,000." Good arithmetic! Yes, but—The book modestly continues that "Such results would probably hardly ever be realized," but "that a snug fortune awaits the owner of a properly managed flock." There are widely advertised systems that guarantee "a thousand dollars' income from poultry in a city lot," and a twenty-thousand-dollar-a-year chicken plant has been recently written up in the poultry press. Each year with the convening of Congress our esteemed Secretary of Agriculture tells us of the marvelous American hen and how her product is worth more than the total wheat or cotton crop of the United States, reckoning its value at the enormous amount of seven hundred million dollars annually, and the city residents, who pay sixty cents per dozen for the eggs to make their Christmas egg-nogs, believe it. The agricultural press often contains cheery little accounts of how Mrs. B. made one hundred or two hundred or five hundred dollars from the sale of eggs. No account is made of the cost of feed or care, of the housing or the losses; but the one hundred or two hundred or five hundred dollars is a clear profit for "a few minutes' pleasant employment in the open air." Artemus Ward says, "There is no way of understanding the foolishness of hens," and we might add, or some of the hen literature.

What is the truth about the business, anyway? Shorn of all its fairy tales, its advertising bombast, its woefully exaggerated statistics and its one-sided profits, what is the truth? City residents who are about to buy suburban homes in order to raise poultry (and there are thousands of such), have a right to know. Consumers who think farmers are getting rich from the sale of eggs and fowls, have a right to know the truth, and the farmers—nearly 90 per cent. of whom raise poultry—ought to know the truth.

The Ohio Agricultural Experiment Station has been conducting experiments in cooperation with a number of farmers throughout Ohio in an effort to ascertain just this thing. The owners of the flocks have been reporting on simple blanks furnished by the station every item of income and expense incident to the management of the flock. The flocks included in this study were just average farm and town-lot flocks, some large and some small, some pure-bred and some not, some had free range and some were confined. They were cared for according to the owner's method. No "expert advice" was given and the results throw some light on the question in hand—profits from poultry.

Flocks Like Others Have

Eighteen of these flocks were kept on the farms, twelve were kept on town lots and one was a purely commercial proposition. These fowls did on the average a little better than the average American hen which lays only about 60 eggs per year. Taking the average of these farm flocks for the year, we have 71 eggs per hen; and from the 12 town flocks 70 eggs per hen. The commercial poultryman secured 141 eggs per hen. This would seem to indicate that flocks in both town and country are producing fewer eggs than are secured where the poultry is made a specialty. The highest number of eggs per hen produced by a farm flock was 167; the lowest production was 60. The highest yield per hen by a town flock was 145, and the lowest 43.

When the relation between the size of the flock and the profit per hen is examined, it is found that the average size of all the flocks considered was 99 fowls; the farm average being 121 fowls and the town average 46 fowls. The average profit above cost of feed and labor per hen in the town flock of more than the average number (46 fowls) was 26 cents; in flocks of less than 50 fowls it was 44 cents. The average profit from farm flocks of more than the average number (121 fowls) was 63 cents and in flocks of less than 121 it was 98 cents.

These figures are mighty interesting, though hardly as attractive as those of our "Million-Dollar Hen" friend. What do these figures mean? In both town and country small flocks have given better returns than large ones and the farm flocks have greatly exceeded the town flocks in profitability. These results make the "\$1,000 obtained from

poultry on a city lot" look like a beautiful dream. But why this difference in favor of the farm flock? Well, for one thing the feed cost is much lower. The feed cost per fowl for the 18 farm flocks was 61 cents per fowl, while for the 12 town flocks it was 97 cents per fowl. This feed cost represents the price paid by the town poultryman and the price at which the farmer could have sold the feed used. The farm flock also possesses the further advantage of gleanings from the fields, orchards, garden and dairy. The scattered grain in the fields, the fallen fruit in the orchards, the defective cabbages, beets and turnips from the garden and the skim-milk from the dairy, all furnish good poultry-food of small money value, but which are largely unavailable to the city poultryman. Weed-seeds, insects, worms and unlimited pasture (green food) are also at the disposition of the farm flock, much to their advantage. The labor cost attendant upon the care of a flock was also higher in the town than in the country. Twenty-eight cents per fowl on the farm as compared with 60 cents per fowl in town. In this connection it is also well to know that four of the town flocks ranged from 36 cents to 93 cents per fowl. The largest profit from a town flock was \$1.64 per hen, and the largest profit from a farm flock was \$2.47 per hen. No farm flock showed a loss, though in one case the profit was only 14 cents per fowl. These feed and labor costs help to make this difference. But first and foremost, the individuality of the caretaker of the flock is the one great factor. Bill Nye once said, "I am convinced that there is great economy in keeping hens if we have sufficient room and a thorough knowledge of how to manage the fowls properly; but to the professional man who is not familiar with the habits of the hen and whose mind does not naturally and intuitively turn henward, I would say, shun her as you would the deadly upas-tree which grows in Piscataquis County, Maine."

A Lady Wins

The best results, \$2.47 per fowl, were secured by a lady. Her equipment was indifferent; just a converted outbuilding with a dirt floor; no curtain front, no heating system, no ventilating system other than high windows; paw-paw poles for roosts and soap-boxes for nests; but the house was kept scrupulously clean and the fowls were regularly and liberally fed on wheat and corn and skim-milk and the waste of the kitchen and garden. Oyster-shells were supplied, but no fancy poultry-feeds were used. The eggs were sold in the usual way, to a huckster at the door; at the little country store, where they were traded for groceries, and to a few private families at a cent or two above the market price. The secret of her success was simply that she was on the job 365 days a year and that nothing interfered with the care of the chickens. The man who made the greatest loss had a fancy flock; a fancy house with a cement floor and all the modern improvements. But he was a banker and "he didn't do the rest." Having secured good birds and provided elegant quarters, "he really was so busy that he did not give the poultry much attention." The flock was fed liberally but irregularly and the outside of his poultry-house presented a much better appearance than did the inside.

So far as the breed was concerned, the two flocks could have exchanged situations and the results would probably not have been greatly different. The question of breed, which is often considered the all-important one, is really of very small importance. In the test referred to there were Rocks, Wyandottes, Reds, Leghorns, Minorcas, Langshans and mixed flocks, and no relation could be found between breed and profit. Indeed, the fowls in the flocks giving the highest profit and in one of the flocks showing a loss were of the same breed.

The poultry business, then, when we come to look it squarely in the face, as it really exists on the farm, may be fairly summarized as follows:

- 1st. It provides a fair minor source of farm income and yields the best returns when under the care of some member of the household who has a love for the flock.
- 2d. That small flocks are relatively more profitable than large ones.
- 3d. That farm poultry is much more profitable than town-lot poultry.
- 4th. That proper feed and care are of more importance than breed.
- 5th. That poultry-houses if kept clean and comfortable need have no frills or fancy stunts.
- 6th. That poultry is not a get-rich-quick scheme, and city people who think they are going to move to the suburbs and greatly reduce the cost of living by raising poultry have "got another think coming."

W. A. LLOYD.

An Inexpensive Plant

WHAT does it cost to go into the chicken business? So many are frightened away by the wrong idea as to expense. They have read of thousand and ten thousand dollar plants, etc. Small wonder they are shy.

Now let me give a few figures for those who wish to keep chickens for revenue purposes. Suppose you start with one hundred hens. These should be secured for \$75; not thoroughbreds, but "one hundred-good laying hens."

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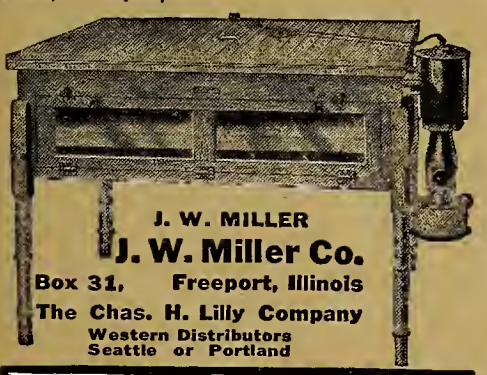


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poultry, pigeons, geese, turkeys, dogs. Incubators, freight paid. Catalogue 3 cents. Missouri Squab Co., Dept. X. X., St. Louis, Mo.

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Biggest incubators ever sold at the price—has hundreds of dead air cells—well made, has cold rolled copper tank, hot water heat, double door, egg tester, deep nursery, high legs, double doors, egg tray, safety lamp. Special price \$7.35. Incubator and Brooder together \$9.85. Freight prepaid East of Rockies. BIG BOOK FREE. Order direct from this ad—our "Buy Back Guarantee" protects you. If you want details of this great Incubator offer, send without delay for our big book "Progressive Method". Progressive Incubator Co., Box 142, Racine, Wis.

Now as to the plant: Two houses 10x12x6 to 9 feet are plenty large to accommodate fifty hens each. These dimensions are for a shanty roof six feet at the rear and nine feet in front.

These two houses will take about 1,000 feet of sheeting and two or three bunches of lath for battening this, with about 300 feet of bill stuff and 2,500 cull shingles laid 4½ inches to the weather, with perhaps seventy-five pounds of nails and spikes and a couple of dollars' worth of whitening in lieu of paint. This will bring the total expense of the two houses to approximately as follows:

1,000 feet sheeting	\$25.00
300 feet bill stuff	7.50
2,500 shingles (culls)	5.00
3 bunches lath	1.00
25 pounds nails .....	.75
Whitening	2.00
Building total	\$41.25
Cost of flock	75.00
	\$116.25

Anything extra for doors or windows can be added at a further cost to bring up the total not to exceed \$125.

Of course, if one is not enough of a carpenter to build the houses, there will be this added expense, but most anybody can build houses of this description.

WM. J. COOPER.

Tommy's Opinion

"Now, Tommy, it's just as I knew it would be—Your digestion is all out of order," said she, "And there isn't a reason for wondering why. It was caused by your eating too much apple-pie." But Tommy had doubts, and her logic denied. "I'm in apple-pie order," was all he replied.

Perhaps Chicken-Pox

A MISSOURI poultry-raiser tells of his fowls being afflicted with dark sores over the body.

It is very difficult in matters of this sort to make a positive diagnosis without a post-mortem examination. It is well known that frequently virulent forms of chicken-pox present "sores" over the entire body as well as on the comb and wattles—the usual place. In such cases these sores are apt to become secondarily infected with pus germs from the air or from the dirt, and thus are developed extensive abscesses or ulcers. Fowls suffering from this disease are likewise exposed to secondary infection not only of the skin, but of the whole body, other pus germs entering at points where the mites that cause scaly legs have broken the skin. While the disease is not contagious, the affected birds should be killed.

JOHN R. MOHLER.

The cheapest way to get corn to market is on the hoof.

Setting the Hens

MY EXPERIENCE in setting hens has been a very successful one, and I sincerely hope this little article will be of benefit to many readers. First, select a suitable place where wind and rain cannot enter and where there are no rats. Don't try to set hens in the house where you keep your other fowls. No matter if they are shut in, the other fowls will bother them and cause them to become uneasy and break their eggs, with the result of a poor hatch.

For nests I use cheese-boxes, which can be procured from the grocers' at 5 cents each, and in some instances for the asking. These boxes being round and low insure the eggs from being broken by the hen jumping down into the nest. In the bottom of the nests I place some slightly moistened earth. Then I fill it as full as I can of fine hay, packing it very firmly and sprinkling a good lice-powder thoroughly through the hay. After every hatch I destroy the hay by burning and replace it with a fresh supply to guard against lice and mites. After filling the nest with hay, I place some nest eggs therein. After dark I get the sitting-hen, dust her thoroughly with lice-powder, place her gently on the nest, cover her with a splint bushel-basket and let her sit. Then I put a box of road-dust for a dust-bath in the room and have plenty of clean fresh water, corn and grit always accessible. On the following evening I uncover her. In the morning she will come off to eat and will return to her nest. I let her sit until she thoroughly makes up her mind to stay, then place from thirteen to seventeen eggs under her, according to the size of the hen.

I have had as many as eighteen hens sitting in the same room with no disturbances and no broken eggs. Try this method, and you will have no broken eggs, and it is not the hen's fault if the eggs do not hatch. This depends upon the fertility of the eggs. In my experience Plymouth Rocks or Wyandottes make the best sitters. They are not so likely to step on and break the eggs as a

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The permanent pasture should be divided into fields by the use of woven wire fences.

Fields should be of such size that each one will be pastured off in from 8 to 10 days. The number of fields will depend on the growth of the grass. By dividing the pasture the grass is evenly cleaned up and an intense use is made of the whole pasture. To save time the pasture should be provided with gates, handy, easy to open and not too small. Pasture is the mother of the farm, and live stock must have freedom.

American Fence is made of large, stiff wires, galvanized heavily, having the American hinged joint (patented), a fabric most flexible and wear-resisting. A square mesh fence of weight, strength and durability—three great needs in farm fences.

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Did you ever see a rock worn away by the constant scraping of wagon wheels over it? That's the way white lead and oil paint wears away—smooth right down to the surface and very slowly.

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In 1911
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Mrs. J. B. Stevenson, of Lockney, Tex., with her 140 egg Ironclad wins in Mo. Valley Farmer's Big Hatching Contest. Her records were 142 eggs set, 3 tested out, 137 chicks hatched; 143 eggs set, 6 tested out, 135 chicks hatched. Think of that! You can now get these famous winners—

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If ordered together, 30 Days Freight trial—5 year Guarantee. Order Paid direct—money back if not sat- isfactory. Incubator is built of Redwood covered with Galvan- ized iron, triple walls, copper tank, nursery egg tester. Set up ready to run. Brooder with wire yard. Roomy well made. Order from this ad. Catalogue Free.

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130 Egg Mankato Incubator \$7.25

A high-grade hatcher, direct from factory to user. Has triple walls covered with asbestos and galvanized iron, metal legs, hot-water copper tank, self regulator, high nursery, safety lamp, thermometer, etc. Safe, simple, easy to heat, saves oil. Brooders \$2.50 up. set up complete. Money back guarantee. None better at any price. 17 years' experience. Big catalog free. MANKATO INCUBATOR CO., Box 824 Mankato, Minn.

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A perfectly designed, strongly built hatching machine, embodying the experience of 44 years.

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Sam Thompson's Fairfield Incubator
Guaranteed to Hatch 90% or Better

No hen in the world will equal this. No other incubator is good enough to be sold on such a guarantee, which proves that the Fairfield way is the best way and that this is the machine for you to buy. So far I have received over 2,000 reports from last year's customers who bated 90% or better.

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The X-Ray Incubator actually brings a new standard of artificial hatching to anyone who has used the old style, wasteful machines. It is the one incubator today that's built on the right principle with the lamp underneath, in the center, and not on the side. This means perfect distribution of heat in the egg-chamber and no outside cold. We use a large oil tank holding 4 to 8 quarts of oil—making only one filling of the lamp, but just four quarts are all that's needed for hatch. Old style machines have to be filled every day. The X-Ray saves both work and money! Heat is regulated by our patented automatic trip which cuts down flame at burner when egg chamber gets too hot—this is a big saving of oil. The ever successful

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has other exclusive and proven features that you will like. It opens from the top—has two double glass panels so you can see the thermometer at any time without letting in outside air on eggs. Ventilate or turn eggs by simply raising the lid. There are no sliding heavy drawers to break the eggs. X-Ray is heated to hatching temperature in just 15 minutes—others take 4 to 8 hours because of their old style principle. X-Ray is made of all genuine California redwood, covered completely with enamel steel, beautiful rosewood finish, legs galvanized, strongly braced. Every X-Ray incubator fully guaranteed. X-Ray results are the biggest results.

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heavy Brahma or a Cochon, which are generally clumsy. Study your hens; find out which are the best sitters. If a hen fools you once, she will be likely to do it again.

As soon as the chicks begin to hatch, I remove them to a basket and keep them where it is warm until all are hatched, when they are placed with the hens. It is best to set as many hens as possible at the same time, so when the hatch is completed, two broods can be put with one hen. I put twenty chicks with a good-sized hen if the weather is warm, but in colder weather about twelve are enough.

A. E. VANDERVORT.

Boys won't sow wild oats if you give them good ones to sow. They won't read dime novels if you give them better books. And they won't want to run away and kill Indians or be burglars if you give them a hen-yard, a few sheep or a colt for their very own.

Hasty Judgment

"WHY, Johnny, both your eyes are bruised! I told you not to play With those two naughty Hayley boys who live across the way!"

And Johnny thoughtfully replied: "That isn't what I've done.

Oh, Mama, do I look as if I'd played with anyone?"

The Yesterlaid Egg Farm

[CONTINUED FROM PAGE 7]

banquet tendered him were supplied by Yesterlaid Farm. They were ordered from this farm because of their well-known high quality.

Yesterlaid Farm will, in the near future, do a large business in breeding stock and eggs for hatching. They are doing considerable business along this line now. This is certain to increase rapidly. The company has the sites prepared for two more one-thousand-hen houses and are preparing to meet the demand as it comes. They have the stock, the location, the outfit and a skilled manager. A large and profitable business is bound to come their way. Judging from his own experience as a producer of high-class market poultry and eggs, the writer is certain that the farm would pay big dividends as a producer of market poultry and eggs of the highest class. Such a plant, however, cannot escape a great demand for breeding stock and eggs for hatching. As it can command good prices for these, the profits will be proportionately increased.

The cost of such a plant and its running expenses are such as to take it out of the small poultryman's reach, yet he can, by adopting the thorough, businesslike methods of this large plant, build up a business that will yield an income sufficient to put him on the easy side of life as its autumn comes on.

Before closing, the writer desires to call the attention of poultry-raisers to one very excellent feature of this plant, and that is: All the different parts of brooders, yards, coops, etc., are made interchangeable. That is, any part of a coop, brooder or yard fence will fit in the place of any similar part. All the brooder-yard divisions are in sections,

and any section will fit any yard in the brooder-house. The same is true with the temporary yards adjoining the range houses. Any section of these fences will fit and fasten to any similar section. Those who have a good deal of work to do will appreciate this feature. All the sections can be stored in small space when the season is over. This is an excellent plan to follow on any farm or lot. It saves lots of time, work and unnecessary talk.

Success with Turkeys

As a rule, young turkeys are very tender and difficult to raise. In the first place, it is necessary to have eggs from good healthy stock. The hen turkeys begin laying very early in the season. They usually lay their eggs on the ground, and for this reason it is best to remove the eggs from the nest soon after they are laid, and replace them with hen eggs. Be careful not to let a turkey hen see you near her nest, for a turkey resents intrusion.

Wrap the eggs in paper, and place them in boxes, one layer deep. They should be turned, carefully, every day until placed for hatching. Turkey eggs will keep in good condition for three weeks when cared for in this manner.

We have never tried hatching turkeys in an incubator, but have known of others who have had good success. The most difficult problem would be the brooding of the young turkeys. We do not think they would thrive in an ordinary brooder.

Some people in this country hatch their turkey eggs under chicken hens. The one advantage in this is that by so doing the turkey hens can be induced to lay several clutches of eggs in a season.

When setting the eggs, we try to guard against lice. A lousy poult soon becomes the prey of disease. Provide suitable shelter for the poults; don't depend upon "coops." Small coops or barrels have no place in the turkey business.

Almost any house or large shed can be turned into a turkey-house with a small amount of labor and expense. If possible, have the south side enclosed with fine-mesh poultry-netting. An oil-cloth or canvas curtain should be attached, to be used in bad weather. If the entire south side cannot be so arranged, then let the windows and doors be at the south side. The hens and poults are put in the house soon after the latter are hatched. When the poults are strong enough to follow the hens, they are turned out into a yard surrounding the house. A few days later they are given free range. They always come back at night.

During the first week, we feed dry bread, crushed fine, with some finely chopped onion-tops added. A little clean coarse sand is also added. Steamed rice is fed once in a while, for a change. We are careful not to overfeed. When the poults get old enough to catch bugs, a little rolled or steel-cut oats are fed once or twice a day. They are always hungriest in the morning. Feed regularly when kept indoors.

ANNA WADE GALLIGHER.

Poults Do Not Die

A NEW star has shot athwart the horizon of the southern turkey-raiser. Disappointed and discouraged by the lack of success attendant upon her efforts to raise the old-fashioned standard variety of turkeys, the average southern housewife, who is, after all, the great American turkey expert, had about despaired of the task and was ready to quit.

The difficulty experienced all over the United States was that the poults would apparently thrive O. K. until about the sixth week, and then proceed to wilt and droop and sleep and die.

Many were hatched, but few were marketed. I was in the same boat and about to abandon the turkey business.

One of my pet theories, however, is that the majority of the people are generally wrong on any given subject, and I decided to start a new flock on lines of my own, disregarding traditional turkey lore, and see if I achieved any better results.

My idea was that all the standard varieties of turkeys, while, no doubt improved as to shape, color and plumage by years of line breeding, had been so inbred (line breeding being nothing more than scientific inbreeding) that lack of vitality in the poults was what caused the trouble. Another evidence of this is the idiocy of the average turkey. The lack of brains displayed by a poult is proverbial. Inbreeding produces idiocy in the turkey as well as in the human race.

I would have tried introducing wild blood into my flock, but that would have been a step backwards, as domesticity is especially desirable in turkeys, and I had no desire to reproduce the wild traits. So I adopted Bourbon Red turkeys, a non-standard variety indigenous to our Kentucky hills, as the solution of the problem.

Bourbon Red turkeys, sometimes called Butternut Reds, or Kentucky Reds, were formerly wild fowls and descended from the original Meleagris Americana of our Kentucky forests.

They are now practically extinct as wild turkeys, but here in Kentucky, as a result of careful and painstaking breeding, mating,

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Send Us \$1.00 deposit and we will send you this high grade finely finished latest improved Little Red Hen Sixty Egg Incubator, by freight subject to examination. The balance \$3.90 and freight charges you can pay the agent after you have examined the incubator and found it perfectly satisfactory, the greatest incubator bargain in the world and a much better incubator than you could buy elsewhere for \$8 to \$10. Then take it home and try a hatch. If you do not find it the best, return it at our expense and we will refund your \$1.00 and transportation charges. Order the incubator today, or if you are interested in a larger incubator, write for our big, free special incubator catalogue, which illustrates and describes our other high grade incubators holding 60, 120, 175 or 240 eggs at \$4.90 to \$16.75. Brooders for 60, 120, 175 or 240 chicks at \$2.00 to \$8.50. Also startling low prices on poultry supplies of all kinds. Write today.

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ONE for each month in the year with horoscope of persons born in that month. You and your friends will get lots of fun and entertainment out of these cards. Simply send three two-cent stamps to pay the postage in mailing. We make you this unusual offer simply to get acquainted with others who appreciate post-cards; and just as soon as we receive your letter we will tell you how to get a set of

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40 VARIETIES OF PURE BRED CHICKENS, Ducks, Geese and Turkeys, Northern Raised, Hardy and fine in plumage. One of the largest and best equipped poultry plants in the West. Lowest prices on stock, eggs, Incubators and Brooders. Large illustrated catalogue mailed for 4 cents in stamps. H. W. CONVERSE, Box 8, Fulda, Minnesota

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LAND and Water Fowls. Farm-raised stock, with eggs in season. Send 2c. for my valuable illustrated descriptive Poultry Book for 1912. Write Henry Pfile, Box 627, Freeport, Ill.

WE PAY \$80 A MONTH SALARY
and furnish rig and all expenses to introduce our guaranteed stock and poultry powders; money-back guarantee; outfit free; new plan; steady work. Address **BIGLER CO., X 600, SPRINGFIELD, ILLINOIS**

INCUBATORS. NEW MODEL. Eggs visible. All others. Catalogue free. **THE EGYPTIAN INCUBATOR CO., MURPHYSBORO, ILL.**

"BRED-TO-LAY" Poultry Pays. 31 Varieties; Stock, Eggs, Baby Chicks. Incubators, Brooders, Poultry Supplies. Big Catalog 4c. **HARRY E. RUBLE, Box 8, Albert Lea, Minn.**

FIFTY VARIETIES pure bred chickens, ducks, geese, and turkeys. Northern raised, hardy and fine in plumage. Prize-winners at the world's largest shows. Lowest prices on stock and eggs. Incubators, Brooders, and Poultry Supplies. Large illustrated Catalogue mailed for 4 cents. **C. M. ATWOOD, Box 21, Dundee, Minn.**

selecting and training, the wild instincts of this wonderfully hardy bird have been completely eliminated without sacrificing any of the good qualities of the forest rover. By a system of keeping over from year to year only the best laying hens and mating them with the best gobblers (being careful always to avoid inbreeding) there has been produced a thoroughly domesticated turkey with precisely the habits of the ordinary barn-yard fowl, but which lays fifty per cent. more eggs than the old varieties and makes no effort to hide its nest.

I set the first three clutches of eggs under chicken hens, and then set the turkey hens to hatch the fourth clutch.

The first week off I feed my little turks bread made from whole-wheat flour moistened with unskimmed sweet milk and mixed with onion tops and lettuce chopped fine, leaving out the black pepper which our grandmothers considered so essential. (I notice our grannies didn't raise a very large percentage of what they hatched.)

Then, as turkeys are not slop eaters, I start them on a diet of hulled oats, wheat and finely cracked corn. I do not mix their feed with milk, but give them all they want to drink. In direct contradiction to immemorial custom, I bar milk-curd absolutely. I think it kills many poult.

After they are six weeks old and until winter sets in, they make the greater part of their living from bugs, grasshoppers and waste grain that they pick up in wandering over the place, thus assuring their existence at little or no cost. In other words, they are self-sustaining foragers.

Housing turkeys is an easy proposition. After the first few weeks, when they must of course be kept clean, warm and dry in brood coops, I let mine roost on the fences and trees outside. A turkey needs no house in any climate.

There is nothing on the farm so profitable as turkeys if properly handled, and the chances for profit are steadily improving, as a result of more general demand and diminished supply. Under ordinarily good conditions there is no other kind of live stock that will return so large a profit to the producer as Bourbon Red turkeys, because they cost less per pound to produce than hog-meat and sell for double the price at half the labor.

And they are almost as ornamental as peacocks. Gorgeous, glittering, golden-brown birds, with white in wings and tail, and buff undercolor, they are fit subjects for the pencil of an artist. Compact, full-breasted, blocky and heavy set, they are equally interesting from the standpoint of the connoisseur and gourmet. While they do not grow quite as large as the mammoth bronze which I discarded, I always have about three times as many to sell in the fall, as I have almost no losses.

As a result of my return to primitive methods of breeding, my turkeys seem to be endowed with a modicum of brains and vitality and do not wilt and droop and sleep and die.

Moss J. BEALL.

Green Food for Hens

AT THE morning visit to a little flock that is giving good returns in eggs, just now too, when falling prices make full numbers important to keep up the monthly balance, it is decidedly disconcerting to find a dead hen under the roost. At once the question is sprung upon us, "What is wrong?" An occasional loss from sickness or accident must be expected in every flock, but where the rule of selling off all fowls by or before the third year is in force, the aim should be by watchfulness and careful feeding to maintain a high condition of health and avoid any dead loss of this kind. In a flock of healthy young fowls a sudden death like this is usually to be charged to indigestion or some related trouble after high feeding. With sound grain through the winter it is most likely to be a result of insufficient green food. An authority on poultry is quoted as saying, "A hen can no more live without bulky food than a cow." Watch a hen at free range, and you will see what a constant business it is with her to fill her crop with light food. In close confinement this must be made up to her in some way if she is kept in the best condition. For her best good, the demand is evidently not merely for a sufficient amount in weight for actual nutrition, but for a considerable bulk in vegetable substance in addition, to keep up the digestive activity which promotes health in a system provided with a crop and a gizzard. Grass in a green state, as we see when the flock is at liberty now that the new grass begins to spring up, and even as clover or short mown hay serves an excellent purpose. Even without cutting, it is really surprising how much of this fine hay a flock of hens will eat during the winter where it is given them in clean armfuls once or twice a week. Cut in short lengths, a still greater quantity is readily eaten. At the present prices of grain it is good economy to make this as large an item as possible.

But hay alone is not sufficient, as was too evident in the case of the hen found dead this morning. The practice has been to keep it constantly before them and frequently renewed. There should be, in addition, a regular ration of more succulent

food. Cabbage, apples, potatoes and other vegetables are all good, and whatever waste of this kind comes from the kitchen is of value as a food, like small potatoes, which are often given a very low estimate in value for feeding, may rightly be considered as worth much more for its use in combination with more concentrated food than the actual nutritive value. Successful feeding for health and full productiveness demands a consideration of all the conditions in planning now for the growing season. Where a little home flock is to remain confined, it is quite worth while to plan the garden accordingly.

MRS. JULIA CHOAT.

What Breed Do You Like Best?

[CONTINUED FROM PAGE 5]

advertise his stock. The winter poultry shows are the real mecca for poultry enthusiasts. There is where they get together for the annual visit with fellow fanciers, battle for honors, sell stock and take advance orders for eggs for hatching. Show season is welcomed by the ardent fancier as the time of all the year, and as the time draws nearer he shows symptoms of "the fever" no matter how cleverly he may struggle to conceal it.

Again we strongly urge that one variety is enough to occupy the attention of a breeder who would specialize on his favorites for the highest degree of success. About twenty-three years ago we began in a modest way with the Barred Plymouth Rocks. Why we started with this variety was simply because *we liked them best*, and we have never had any cause to regret our selection. The Barred Rocks have been in popular favor all during the time we have bred them exclusively of any other breed or variety, and they have made good for us. No other breed or variety can rival their beauty as a show bird, and their actual worth as business birds is evidenced in the fact that they have the reputation of forming the backbone of the poultry industry. We like them still, because of their continued popularity in spite of the many new breeds that come and go.

Other prominent breeders have been equally successful with the Wyandottes, Leghorns, etc. But we believe that in every instance where the highest degree of success has been attained the breeder's energies have been centered on a single variety, and by virtue of consistent breeding the birds of his choice, up to a standard nearly approaching perfection, and giving the people full value in the stock they are looking for, he has built up a reputation that is a valuable asset. He profits most who serves best, and the farmer who will devote a reasonable share of his excellent opportunities to the business of raising standard-bred poultry surely will make it profitable.

The "Ball-Band" Trade-mark Is Rubber Footwear Insurance

Provide yourself with "BALL-BAND" Rubber Boots NOW, and thus make sure that your feet will be dry and comfortable through all the wettest, coldest weather of the season.

Right now you have time to look for the "BALL-BAND" store, where you get the longest wear and the utmost comfort and satisfaction for your money.



There are now more than eight million wearers of "BALL-BAND." Many of these millions have worn "BALL-BAND" for years. Ask any of these about "BALL-BAND" quality. To maintain this quality we sacrifice one million dollars profit every year, and put it into materials and workmanship.

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Whether you see the sign or not, you are sure to find the RED BALL trade-mark on all "BALL-BAND" goods. Insist on seeing it. It is your protection.

Forty-five thousand dealers in all parts of the country sell "BALL-BAND" Footwear. If by any chance your dealer can't supply you, write us, mentioning his name, and we will see that you are fitted.

Mishawaka Woolen Mfg. Co.

Mishawaka, Indiana

"The House That Pays Millions for Quality"



Mr. W. J. Black of Indiana Winner in Successful Farming's 1911 Contest with two 100 per cent perfect hatches.



Mrs. M. J. Clifton of Oklahoma, winner in the 1910 Successful Farming Contest by hatching 140 chicks from 140 eggs, 100% perfect.



Mrs. H. F. Osman of Ohio won the "Tycos" Cup offered by manufacturers of Tycos Thermometers.



Mrs. Laura J. Clark of Illinois was a winner in the Missouri Valley Farmer and Nebraska Farm Journal great 1911 contest hatching 140 chicks from 140 eggs.



"Tycos" Cup Won By Belle City Incubator

Jim Rohan and His Championship Winners

YOU eliminate all risk when you buy one of my Belle City Incubators. You are sure of the best results and profits from the start because they have not only proven their superiority over all other machines made in winning the championship four times, but these prizes were won by inexperienced users. Hundreds of thousands of other people are making record hatches outside of contests every day. I could not sell you a better hatcher if I charged you \$100.00 for it. I could not give you a single additional chick for \$92.45 extra, because my machines are 100% perfect hatchers—no amount of money can buy more.

\$7.55 Only Puts You In The Championship Class

It brings to your home, all freight prepaid, on one, two or three months trial—140 Egg Belle City Incubator, fully equipped. Why take any chances on an unknown machine or a machine with a poorer record than the Championship Incubator when it costs no more and in many instances much less to own a championship machine.

Combination Offer: 140 Egg Belle City World's Championship Incubator \$7.55, 140 Chick Belle City Brooder \$4.85. Both ordered together—a complete outfit - - - **\$11.50**

All freight prepaid East of the Rockies, and allowed that far if you live beyond. By ordering together, you save 90c which will furnish all the kerosene oil you will need and more for the whole season's hatches.

Why Not Order Direct From This Advertisement? —Thousands of Others Do.

I reserve a certain number of machines for people who order direct from my advertisements, so I guarantee to ship the day order is received from one of my warehouse branches or from my factory. This saves time, correspondence and delay. Get your outfit just when you want it, ready to start when your eggs are ready.

I have gone to some little trouble and expense to make it perfectly secure for you to order this way because I do not expect you to send me your money without knowing who I am. Here is a letter from the Cashier of the Commercial and Savings Bank of Racine which explains all.

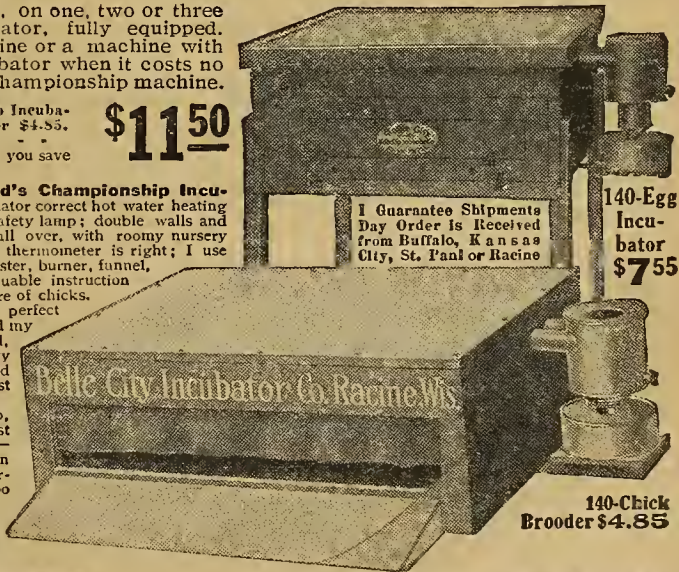
"To Whom It May Concern: Jim Rohan, President of the Belle City Incubator Company is one of our depositors—perfectly reliable in every way, and people are perfectly safe in ordering his incubators and brooders from his advertisements, sending money in advance, as we have known him for years and know he will fulfill all agreements. Signed C. R. Carpenter, Cashier."

I refer you to any other bank or express company in Racine, any commercial agency and all the leading agricultural and poultry papers with whom I have advertised for years.

And remember, I guarantee to refund your money if you are not satisfied with your Home Test.

Think it over. If you feel like sending your order from this advertisement, read my description which tells you what you get for your money.

Jim Rohan, Prest. Belle City Incubator Co., Box 100, Racine, Wis.



Incubator and Brooder \$11.50 Ordered together Freight Prepaid East of Rockies.

\$9000 Worth of Cream in 1911

Read what Mr. Charles S. Pope, whose wonderful success was described in the Jan. 20th issue of Farm and Fireside says about the

United States Cream Separator

Manchester, Me., Feb. 5, 1912.
We have used the U. S. Separator for over 10 years and have no desire to make a change. In proof of the extra quality of cream, can say that we are furnishing cream for the table of Mr. B— of Boston, who is the expert judge of butter, cream and milk at the various dairy conventions. He pronounces it superior to any he has found for flavor, smoothness and keeping qualities. Chas. S. Pope & Sons.

Write us today for Catalog No. 69.

Vermont Farm Machine Co.

Bellows Falls, Vt.

Distributing Warehouses in every Dairy Section of the country.

FOR INFORMATION AS TO LANDS IN

The Nation's Garden Spot—
THAT GREAT FRUIT AND TRUCK GROWING SECTION—
along the
Atlantic Coast Line RAILROAD
in Virginia, North and South Carolina, Georgia, Alabama and Florida, write to
WILBUR MCCOY, A. & I. Agt. for Florida, Jacksonville, Fla.
E. N. CLARK, A. & I. Agt. for Virginia and the Carolinas, Wilmington, N. C.

Make your Silo stronger—last longer
Reinforce your Silo now with Lacey Silo Hoops—will add 10 years life to it. My Silo hoops are made of best galvanized wire strands—seven wires twisted together—firmly bolted at ends. Ends made of refined iron with 16 in. thread fitted with Hex nut. My hoops will keep your Silo staves firm together. Priced as low as 63 cents. I can also save you \$10 to \$25 on a Silo and give you finest lumber and construction in America. Get my prices quickly, write today
* **ELMER B. LACEY, Box 60, UNION, N. Y.**

LACEY'S SILO HOOPS

Sandow \$37⁵⁰
2½ H.P. Stationary Engine—Complete
Gives ample power for all farm uses. Only three moving parts—no cams, no gears, no valves—can't get out of order. Perfect governor—ideal cooling system. Uses kerosene (coal oil), gasoline, alcohol, distillate or gas. Sold on 15 days' trial. **YOUR MONEY BACK IF YOU ARE NOT SATISFIED.**
5-year ironclad guarantee. Sizes 2½ to 20 H. P., at proportionate prices, in stock, ready to ship. Postal brings full particulars free. Write for proposition on first engine in your locality. (116)
Detroit Motor Car Supply Co., 88 Canton Av., Detroit, Mich.

SAVE DEALER'S PROFIT FREIGHT PAID
PAINT AT FACTORY PRICES
Guaranteed For 5 and 7 Years
Made fresh to order. Guaranteed trial offer. All your money back if not satisfactory. Free paint book and color cards, tells all about paint and how to use it. **WRITE TODAY**
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\$29.50 Buys This Elegant Top Buggy.
WARRANTED FOR Five Years.
Retail Price \$60.00. Buggies, Surreys, Spring Wagons, Farm Wagons. We have cut out our Jobbers, our Wholesalers and our Retailers and offer YOU their profit. Write today for our Free Catalog and Delivered Prices.
Mutual Carriage & Harness Mfg. Co.
Station 65-II, East St. Louis, Ill.

CALVES WITHOUT MILK
Write for Free Booklet
"How to Raise Calves Cheaply and Successfully Without Milk"
Contains full information and complete feeding directions for using
BLATCHFORD'S CALF MEAL—The Perfect Milk Substitute
Three or four calves can be raised on it at the cost of one where milk is fed. No mill feed. The only calf meal manufactured in an exclusive Calf Meal Factory. Established at Leicester, England, in 1800.

BLATCHFORD'S CALF MEAL FACTORY, WAUKEGAN, ILLINOIS

\$15.95 AND UPWARD
SENT ON TRIAL. FULLY GUARANTEED.
—AMERICAN—SEPARATOR

A brand new, well made, easy running, easily cleaned, perfect skimming separator for \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Thousands in use giving splendid satisfaction. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements. Our richly illustrated catalog tells all about it. Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Our twenty-year guarantee protects you on every American Separator. Western orders filled from Western points. Whether your dairy is large or small, get our great offer and handsome free catalog. ADDRESS,

AMERICAN SEPARATOR CO., BOX 1058, BAINBRIDGE, N. Y.



Live Stock and Dairy

Hogs—and the Cholera

OH, WAD some power the giftie gie
An' show us how to dig
From all the porcine universe
A nice, smooth, LONG-TAILED Pig.

The above extract from the unprinted poems of Doctor Fitzgerald.

That was the burden of his song, "Oh, for a long-tailed pig!"

Doubtless many farmers have fed pigs, fattened hogs, shipped fat stuff to market and paid mortgages with the resultant checks without ever once being interested in the tails of the respective hogs, but not the doctor; he wants a certain kind of pig, he wants him to have a certain kind of tail, and thereon hangs a tale of interest to farmers.

What is Hog-Cholera?

Hog-cholera comes from a virus or poison which grows in the veins of healthy hogs. They eat the germs with their feed, or they, perchance, enter the body through the nose or other orifice. These germs grow, develop and increase in enormous numbers, and either from the poisonous nature of their bodies or from the toxins they excrete, or throw off, the hog is poisoned and dies. These germs can be carried on the boots of a person going from a yard containing hogs which have cholera into a herd which is free from cholera, and cholera follows the germs sometimes. These germs may be ingested by birds which feed upon the carcass of a cholera hog and may be voided with their feces as they fly over a yard of cholera-free hogs, or there are many other ways by which the spread of cholera may take place.

Scrupulous cleanliness is a great preventive of hog-cholera, but sometimes it comes where every possible means has been taken



The method of vaccinating a large hog

to guard against its ravages, giving rise to the theory that it might be carried by the wind, although the Doctor assures us that such is not the case, as the wind cannot carry it, but birds may.

The Ohio Board of Agriculture and many other State commissioners are doing a great work in studying this scourge of the pen and securing and dispensing the hog-cholera serum, which is so very effective in preventing the spread of this, probably the greatest source of loss to the feeder.

This serum is not for use on hogs which have a well-developed case of cholera and which are in the last throes of dissolution; nothing can be done for such hogs but to carefully burn them to prevent the spread of the disease. Serum finds its greatest sphere of usefulness in those herds which have not shown cholera, but in which the owner fears for his investment and uses it simply as an insurance against loss.

One dose of this preventive serum is injected per every fifty pounds of hog. For a two-hundred-pound hog four doses are used in connection with a maximum dose of cholera blood. Don't jump to the conclusion that the cholera blood will hurt the hog. They have tried it often enough to know that it is entirely harmless, but somewhere in the hog's anatomy there is a sort of laboratory, in which they carry on the development of immunization, and while the four doses of serum will produce an immunization for a short time, it will not be nearly so effective nor its results so long lasting as where it is given in connection with the injection of the cholera blood. The two kinds of bugs get to fighting in the hog's veins and they forget to hurt the hog himself.

Where does the serum come from? From hogs that don't have cholera; those which will come through a siege of cholera with an appetite for their feed every five hours and never mind the sick brothers on the ground. Some do.

That was where it came from first, but the demand is so great for the serum now that it has become necessary to resort to the artificial production of the serum, and for this purpose the department has leased and has been operating a farm located at

DOLLAR PER POUND BUTTER

made users of SHARPLES TUBULAR Cream Separators rich.

The Darlington, of Darlington, Pa., got rich making world-famous "dollar-per-pound" butter for people willing to pay for the best. They use only Tubulars.

If it's not a SHARPLES, it's not a Tubular—and you are not getting all the profits. That's why 100,000 dairymen in Iowa alone use Tubulars.



\$3,000 A YEAR WITH A SHARPLES

That, and more, is what Mr. Chas. Foss, practical dairyman at Cedarville, Ill., is making—using a Sharple's Dairy Tubular Separator on a 96-acre farm. Thousands are doing like good work—but they all use Tubulars.

Rich people, willing to waste money, may not use Tubulars, but those making fortunes at dairying do.

Write Us for Catalog 112

Learn how Dairy Tubulars make more money for you because they contain no disks and have double skimming force. **THE SHARPLES SEPARATOR CO.** WEST CHESTER, PA.
Chicago, Ill.; San Francisco, Cal.; Portland, Ore.; Dallas, Tex.; Toronto, Can.; Winnipeg, Can.

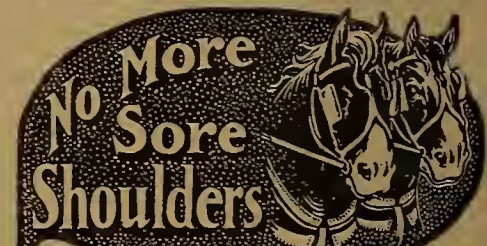
DEATH TO HEAVES AND INDIGESTION TROUBLES



Indigestion causes Heaves
NEWTON'S Heave, Cough, Distemper and Indigestion Cure gets at the root of the trouble by correcting Indigestion, and is therefore Death to Heaves.

Heaves is not a Lung Trouble. Heaves is brought on by indigestion caused by overfeeding bulky food or violent exercise on an overtaxed Stomach. Overfeeding enlarges the Stomach and Diaphragm, retarding the circulation and nerve force of the Lungs. Good feeders and good workers only have Heaves. Newton's cures Chronic Cough, caused by Indigestion and the after-effects of Distemper. It cures Distemper by driving the poison from the blood. Newton's, in correcting Stomach and Bowel troubles, makes it a Grand Conditioner. Expels Intestinal Worms, cures Colds, Acute Cough, prevents Colic, Staggers, etc. A Blood Purifier, cures Skin Eruptions. Economical to use; dose is small. Equally effective for all stock.

Put up in screw top cans, 50c & \$1.00. Large can contains 2½ times as much as small, and is recommended for Heaves and Chronic Cough. Sold by all Dealers or sent direct prepaid. Newton's is a standard Veterinary Medicine backed by Twenty Years' Record of good results. Satisfaction guaranteed in every can. Book with full explanation sent free. **THE NEWTON REMEDY CO., Toledo, Ohio.**



Your team will put more heart into their work and give more service if their collars are properly padded. **VENTIPLEX** is the kind to use, because it is made of ventilated fabric which allows the sweat to evaporate and keeps the shoulders cool and comfortable. You can use all your horses all the time, because **VENTIPLEX** prevents sore shoulders and galls. They are worth more than other pads, but cost no more. Your dealer should have them, but if not, send us his name and we will send sample promptly. Patented Sept. 20, 1910. Write for our interesting folder. We also make the famous "Stay-On" Blanket.

BURLINGTON BLANKET CO.
Dept. 56 Burlington, Wis.



FREE A real egg getter recipe. Hens lay whether they want to or not. Write **A. R. SAYLOR DRUG CO., Allentown, Pa.**

THIS O.I.C. SOW WEIGHED 932 LBS. AT 23 MONTHS OLD
IONIA GIRL
I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs."
G. S. BENJAMIN, Masonic Bldg., Portland, Mich.

Reynoldsburg, Ohio, ten miles east of Columbus on the Old National Road at the home of Doctor Fisher, the State veterinarian.

On the serum farm there are two large hog-houses, and a number of isolation pens, for the purpose of preventing those hogs which have the cholera from spreading the disease among others of their kind elsewhere than as the physicians in charge desire, and to these we first direct our steps and inquiry.

The Serum Farm

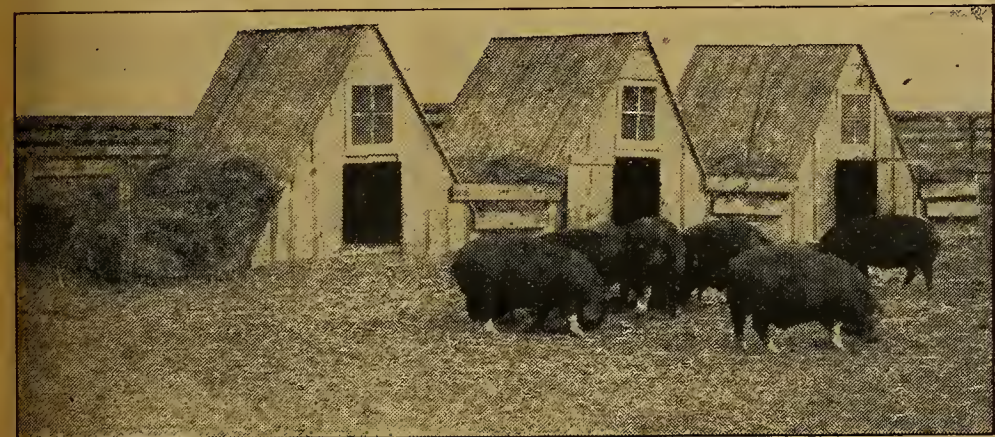
In Pen 8 we have a litter of seven pigs, eight weeks old, all of uniform size, all apparently healthy. Here comes one of the physicians and his corps of assistants with various syringes, a marker and other paraphernalia suited to the work in hand; each hog is marked, in the ears, his number recorded; he is then injected with a full dose of hog-cholera virus from the veins of a dead cholera hog, then one has a part dose of serum, and each of the others an increasingly larger dose till the full dose is reached, all but one; in the interest of science one pig dies and he dies with hog-cholera. This is necessary that they may keep track of their cholera virus and know that it is up to the specifications.

Usually the quarter-dose pig dies, too, but the no-dose pig dies sure. Those that do not die are the victims of the doctor and his assistants with their bleeding apparatus, and the benefactors of hogdom all over the State.

As soon as their immunity is proven, they are bled, a two-hundred-pound pig producing sixty doses of the serum, then a string is tied around his tail and he is turned back into quarters to recuperate.

The bleeding is a very simple matter: a chisel, a block of wood, a smart blow with the hand and the tail is turned into a sterile receptacle where the blood is saved.

Each hog is bled eight times, producing at each bleeding sixty doses of serum, or four hundred and eighty doses in all. Then it is butchered and the balance of its blood saved, resulting in still more serum, but its potency becomes somewhat reduced at each



The hogs should be kept comfortable all the time

bleeding, though the hog is fed to keep its weight increasing all the time. After the fourth bleeding, the hog is reinjected with serum producing the hyperimmune hog.

The serum from each bunch of hogs is saved and its potency proven before any of it is permitted to go out into the field work throughout the State, thus absolutely assuring results.

The Long-Tailed Hog

Eight bleedings is about the limit of the average hog's tail. It then becomes too short for satisfactory use and it is turned out into the fields with the bunch to fatten for market and the final bleeding preliminary to its end.

At the Reynoldsburg plant they are bleeding about seventy-five pigs per week of an average weight of one hundred and eighty pounds, and the demand for serum is so great from those portions of Ohio where the cholera is ravaging the herds that they could well use many times their equipment and force of men. The fact that this is true in all States marks this question of great importance. E. M. RODERAUGH.

Sheep for Range

A NEW MEXICO reader who desires to start in sheep writes asking for the best methods to pursue.

There are two possibilities. The first is to buy a few head of sheep, and stay with them until the herd increases sufficiently to yield an income, grazing them on the grass that can be spared on his farm, and ranging them on the available grass on the public land within reach. The second possibility is to find some sheep-owner who is willing to lease a bunch of sheep on favorable terms so that he can get a part of the increase, and thereby form the nucleus of a bunch of his own. In most localities in New Mexico there is still considerable open range, and in summer the sheep depend on natural ponds and lakes for water.

I have seen the homesteaders in several localities trying these plans. In communities where nearly all of the land has been filed on it is usually necessary to keep the sheep at quite a distance from the home ranch. J. D. TINSLEY.

Sell the Milk

And at the Same Time Have It Yourself

A FEW farmers are finding what they can do with cows if they separate the cream and sell it and have the skim-milk to use on the farm. And does the cream really bring as much as the entire milk? If accurately measured and sold in the right manner and the price is high enough, it does, and sometimes even more. But bear in mind that the Babcock machine, careful testing of the cream and accurate measuring of the fats put in each quart or can must always accompany the sale of cream. It is much easier to give away ten pounds of fats in cream unnoticed than to waste an equal value of butter or milk. After selling cream for many years I know something about it, but have had to grope my way, learning from experience without a teacher, since I was among the few pioneers in cream-selling.

Cream of all thicknesses is in demand, from that of 10 to 12 per cent. fats (about three times the richness of milk), which brings 11 to 13 cents, to that which is 40 per cent. fats and retails at 60 cents per quart, sold mainly in half-pint bottles to the retail family trade. The price must increase in direct ratio with the increase in richness. To make cream pay the same price (or more) as milk of 4 per cent. when it is bringing 4 cents per quart, customers must pay at the rate of 1 cent for each 1 per cent. of fats it contains, or say 11 cents for 10 per cent. cream, 20 cents or 22 cents for 20 per cent. cream, 35 cents or 38 cents for 35 per cent. cream. These prices are wholesale and should be much higher when the cream is sold to families, to compensate for the expense of putting up in small quantities, delivery and collections.

Regular customers will be found among the well-to-do, but the large dairyman who is not ready to retail his goods, must find cream-dealers, hotels or high-class restaurants that will agree to take all he will make. Then usually he will have to contract to make a specified quantity (within reasonable latitudes) each month in the

DE LAVAL CREAM SEPARATORS

THEIR GREAT SIMPLICITY

De Laval Cream Separators excel other separators not only in thoroughness of separation, sanitary cleanliness, ease of running and durability—but as well in their great simplicity.

There is nothing about the operation, cleaning, adjustment or repair of a modern De Laval Cream Separator which requires expert knowledge or special tools.

Nor are there any parts of which adjustment is frequently necessary to maintain good running or to conform to varying conditions in the every-day use of a cream separator.

There is no need to fit and adjust parts to get them together right. They are so made that they cannot help go together right. All bearings and bushings are easy to replace. There are no complicated springs, keys, ball bearings or other fittings that only an expert can properly adjust.

A person who has never touched a separator before can, if need be, unassemble a modern De Laval machine down to the last part within a few minutes and then re-assemble it again as quickly. This is something which cannot be done outside a shop with any other separator.

The only way to properly understand and appreciate De Laval superiority to other separators, is to look over, and better still to try, a 1912 De Laval machine. Every De Laval agent is glad to afford prospective buyers the opportunity to see and try a De Laval Separator.

THE DE LAVAL SEPARATOR CO.

NEW YORK

CHICAGO

SAN FRANCISCO

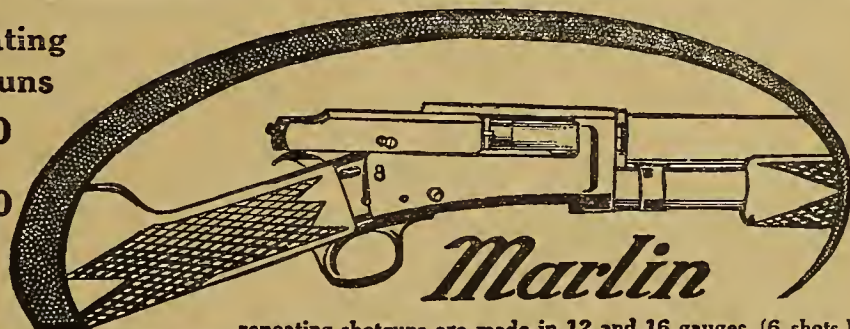
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Repeating Shotguns

\$19.50

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repeating shotguns are made in 12 and 16 gauges (6 shots,) shooting, etc. The most extensive line of repeating guns in the world.

Every Marlin repeating shotgun has the Marlin solid top, side ejector and closed-in breech. It can't freeze up with rain, snow or sleet; rain can't run into the action and swell the shells in magazine; dirt, leaves, twigs and sand are also excluded from the action. Simple, strong mechanism; one-third less parts than any other repeater. The double extractors pull any shell. Handles rapidly, guaranteed in shooting ability—and the automatic recoil safety lock makes it the safest breech loading gun built. Be sure you get a Marlin.

DO IT NOW! Send three stamps postage and get our big catalog of all Marlin repeating rifles and shotguns by return mail.

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141 Willow Street New Haven, Conn.

More Milk Without Increasing Ration

Man, asserting his dominion over all creatures, has converted the cow into a machine to transform her feed into milk. In her natural state the cow gave milk only for a brief period to nourish her offspring, but in her domesticated condition, she must yield milk in abundance nearly the year round. As a big milk supply can be obtained only by giving its equivalent in feed, the tendency has been toward overfeeding, and consequent impaired digestion, etc. Furthermore, the healthy animal wastes a lot of feed through non-digestion—in fact, you can fatten your hogs on the grain that passes through your cows and other stock undigested.

Now, considering the tendency to impaired digestion and the natural waste of nutrition, why not avail yourself of "The Dr. Hess Idea" which strengthens digestion. Given in a small dose twice a day.

DR. HESS STOCK TONIC

saves a part of the wasted feed, expels the worms and relieves minor stock ailments. Eighteen years' test has firmly established Dr. Hess Stock Tonic as a necessity to profitable feeding. Every ingredient is recommended by our ablest medical writers. Dr. Hess is himself a graduate of both human and veterinary medicine. An extra quart of milk each week covers the cost.

Our proposition. You get of your dealer a 25 lb. pail of Dr. Hess Stock Tonic at \$1.60 or 100 lbs. at \$5.00. (Except in Canada and extreme West and South.) Use it all winter and spring. If it don't pay you and pay you well, get your money back. Every pound sold on the guarantee. If your dealer cannot supply you, we will.

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1½ lbs. 25c, mail or express 40c; 5 lbs. 60c; 12 lbs. \$1.25; 25 lb. pail \$2.50. (Except in Canada and the Extreme West.) Send 2c for Dr. Hess 48 page Poultry Booklet, free.

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High Grade Separator—Direct Save \$25 to \$50 direct at my factory price—freight prepaid. Get the only Separator that runs in "Bath of Oil," like a \$5,000 automobile. This alone is worth \$50 extra, but costs you nothing extra. Take

90 Days'

Farm Test—Freight Prepaid

Why pay \$85 to \$110 to dealers or agents who cannot sell you a separator equal to the Galloway—closest skimmer—easiest run—easiest cleaned—10-yr. guarantee. Send for BOOK FREE WM. GALLOWAY CO.
743C Galloway Sta., Waterloo, Ia.



supplied, hence it is well to adhere to long-time buyers if possible, instead of changing. Makers of ice-cream use the lighter grades of cream. Of course, the lighter or thinner the cream, the more skim-milk is given with it, for which no pay is received. For this reason, as well as for the fact that thick cream costs less for transportation per dollar of value than thin cream, the thicker the cream is sold, the more profit, providing the price received is right.

Many dairymen are still unable to estimate the values of fats in a given amount of cream (and some, alas, have not yet even mastered the simple Babcock milk-testing machine). Let us weigh a can of milk. Its standard is 2.15 pounds per quart, or 86 pounds per 40-quart can. A can of 12 per cent. (fats) cream weighs about 84 pounds, and a can of 35 per cent. cream, 80 pounds. Now figure the fats in the 4 per cent. milk; that is, multiply its weight, 86 pounds, by 4 per cent. It will be found to be 3.4 pounds. The fats in an 84-pound can of cream (10 or 12 per cent.) weighs 10.08, and in an 80-pound can (35 per cent.), 28 pounds. A glance shows that the less fat there is, the more skim-milk will be required to fill the can. Let us suppose we wish to get at the value of a 35 per cent. can of cream. We know it contains 28 pounds of fats after multiplying 80 by 35. To learn the weight of fat in a quart of this cream, divide the 28 pounds by 40 quarts. The result is .7 pounds. If a quart of this cream contains .7 pounds, we readily learn how many quarts of such cream a can of 4 per cent. milk will yield by dividing its fats (3.4 pounds) by the .7. It is 4.85 quarts. Now multiply this by 35 cents per quart, and the price received is \$1.70 for the fats in a 40-quart can of 4 per cent. milk, and the skim-milk left on the farm. The skilful feeder of skim-milk is able to make it return him 25 cents to 60 cents per 100 pounds, according to the way it is fed and the class of stock raised on it. The successful dairyman must have the versatility of a statesman and the staying powers of a sphinx.

HOLLISTER SAGE.

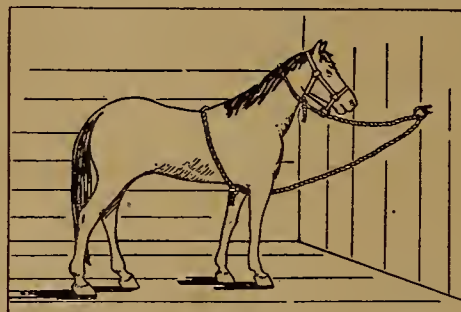
A 5,000-acre pecan-orchard is to be planted a few miles east of Americus, Georgia.

The Halter-Puller

A SUBSCRIBER writes asking for advice concerning the vice of halter-pulling, which his two-and-one-half-year-old filly has contracted.

This vice seems to be a very common one and, unfortunately, is always owing to the same cause, tying up the colt with a weak halter. The colt should always be tied with a halter that he cannot possibly break, and this should be continued until he is thoroughly halter-broken and it becomes second nature to him to stand quietly when tied.

In my series of papers on horses and horsemanship, which appeared in FARM AND FIRESIDE last year, I pointed out that the horse reasons almost entirely from experience and very little from observation. Thus it is that the colt who has always found himself unable to break his halter when being taught to stand tied, does not thereafter make the attempt. Reasoning from experience, he believes it is impossible, and it never occurs to him that different halters may not be of the same strength, but sometimes when tied with a poor rope he accidentally breaks it. If, as quite frequently



"Have the ring at the level of his nose"

occurs, he does not fully realize what he has done, no great harm ensues, but if he does realize it, he has learned a new and exceedingly dangerous piece of knowledge—namely, that all halters are not equally strong and that he can sometimes defy his master by breaking the rope that was intended to hold him fast.

I need hardly say that no horse should even be allowed to learn the secret of his own power in any single respect. Fortunately for those who use him, he continues to reason from experience, and thus this discovery of his ability to defy his master in one respect does not teach him that he can do so in others. Bad habits are learned one at a time. When once they are learned, the only way to meet them is to upset the self-confidence they inspire in the horse and to teach him that, after all, he cannot do as he pleases.

For the treatment of this particular vice, have a strong rope, tie it around the horse's neck, and run it through the ring of the halter, which preferably should be of the "five ring" kind. Now, instead of having the ring to which you tie him in its usual place, have it in the ceiling over his head and a little further ahead than the front of his stall. Usually that is all that is needed to induce him to stand quietly, for he cannot bring to bear very much power in pulling back when he is tied sufficiently high.

Should this not check the habit, proceed as follows: Have the ring to which you tie the horse a little higher than usual, say about the level of his nose when he stands in a natural position. Have a long halter rope, run it through this ring, lock back between his forelegs, and tie around his body, being careful to have the knot immediately underneath. He cannot pull back with any force when tied in this way and will usually give it up after a very few attempts.

When the halter-puller has given up the habit, he should still be tied with a rope that he cannot break. For to learn this or any other bad habit a second time has a very bad effect on the horse's mind and makes its subsequent treatment proportionately difficult.

DAVID BUFFUM.

Lumpy-Jaw

A NORTH CAROLINA reader states that he has a cow four years old on which he noticed early in her history a little sore right under the left eye about half-way between the eye and the end of her nose. The sore continued to rise until it covered the side of her face and now hangs down over the halter. It breaks out in little boils full of corruption and is right hard.

The cow is afflicted with "lumpy-jaw" (actinomycosis) caused by the ray fungus (Actinomyces). If the bones of the skull are involved, the case will prove practically incurable, but the flesh of the cow, after discarding the head, will be fit for use, if she is in good condition and the internal organs are found to be perfectly healthy.

If the mass is loose from the bone, it may be a comparatively simple case to handle. The mass should be cut out and the wound swabbed with dilute sulphuric acid; then swab it once daily with tincture of iodine until cured. If you cannot have the mass cut out, then saturate it with a saturated solution of sulphate of copper; or swab it with sulphuric acid after smearing lard

around the sore. Iodine of potash in one-dram doses may be given twice daily in the drinking-water for ten days; then skip ten days, and repeat the treatment. Apply the acid twice a week, or the tincture of iodine daily. Copper-sulphate solution, if used, may be applied twice a week.

A. S. ALEXANDER.

Weaning the Lambs

MILK, and more milk, makes fat lambs, and the fat lamb is the profitable lamb—remember that.

There comes a time after three or four months when the ewes' milk-flow naturally dries up and then the lambs are weaned. The farmer blessed with an abundance of grazing need not hurry, of course, to separate the ewes and lambs, but for the farmer short of green pasture the case is different.

This weaning period is a trying time, for even a little milk goes a long way, so when this milk supply is shut off, every other precaution must be taken to keep the baby fat on the lambs. The lamb accustomed to the creep and grain from early lambhood now works at a big advantage. Besides getting his share of the choice clover-patches, new lanes and crops cut and fed in a rack, he is in condition to eat a liberal supply of sweet, clean corn-meal. When the lambs are intended for market only, nothing beats good corn, cracked coarsely. But oats and oil-meal, cotton-seed meal, gluten meal, alfalfa-meal or bean-meal with the corn seems better for future breeding ewes and rams. At the time of separation the ewes are moved away into a new pasture where the lambs cannot hear them. The shorter and drier the grass, the better, for now we must reduce their feed and dry them up. However, we should never be so eager to deprive them of food that we turn them into a lot without shade, water and salt. As the feed grows more scarce, the flow of milk lessens, but for two weeks care should be taken to milk a little from the full udders every fourth or fifth day.

The ewes in this manner are dried up ready for the coming early breeding season, and with the lambs alone every bit of fresh grazing can be used to the greatest advantage. Coming off the pasture during the heat of the day, the ideal place for the lambs is a darkened cool basement where fresh grass or good alfalfa or clover awaits them. Once a day they should have a full feed of choice, clean, sweet grain. Don't overfeed one day and underfeed the next, or place before them soiled grain, fit only for the hogs.

Lambs will eat only the clean, fresh feed, and when they are very young it will pay to feed them all they will clean up without waste. Their whole body is working under the highest pressure while they are young, and an ounce of good feed at weaning-time goes farther than at any other season, unless you have allowed the young lambs to grow up runts. The fat lambs raised on the American farm will make its owner money, but be sure you study this proposition enough to be able to keep them growing and fat.

J. C. COURTER.

Working Brood-Mares

ANY brood-mare of whatever type can continue in the work to which she has been previously accustomed. It is unnecessary to state that farmers usually work their in-foal mares, but more care should be taken to secure plenty of room for the increasing size of their bodies. For instance, the cart-shafts may have been wide enough for her last year, but now she is heavy in foal. A slight increase of width can be obtained by simply shortening the draft chains, thereby putting the mare near the cart, where the shafts are wider. Suppose she is working in chains, the spreaders should be very lengthy, or the chains may chafe her rapidly swelling sides. It is not advisable either to rest an ordinary brood-mare, nor to fuss her up in any way. Feed her more liberally than though she had no internal foal to support. Her keep may not be more costly, as her digestion and assimilation are now of superior order, as indicated by her healthy, shiny coat. It is quantity she wants, not expensive foods, but heated oats and moldy hay must be avoided. These damaged foods are not so bad for store bullocks, or for any ruminating animal; but they will upset any horse if continued for a length of time.

W. R. GILBERT.

The Breeding Sow

IN SELECTING a breeding sow, there are several points to be kept in view. She should be the pick of the litter, should have the advantage of good breeding, though not at all necessary of pure breeding. She should have a full complement of teats, say twelve or fourteen, else she will be unable to suckle a big farrow. The little one who has not a teat to himself soon dies. She should be a kind feeder, not fastidious in her appetite, and she should possess a happy disposition, for a bad temper leads to the destruction of many little ones. The gilt may be mated at about five months old. It is folly to keep her back as long as some theorists advise.

W. R. GILBERT.

Save Wash Day Work

You can cut your wash day work in two if you will follow this advice. Save up your scraps of fat and grease, get a can of Lewis' Lye and make some real soap yourself. It will cost less than half the price of the cheapest soap you can buy, and it will be so fine and white—you will enjoy using it.

But be sure you get—

Lewis' Lye

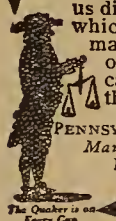
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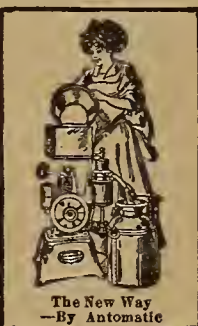
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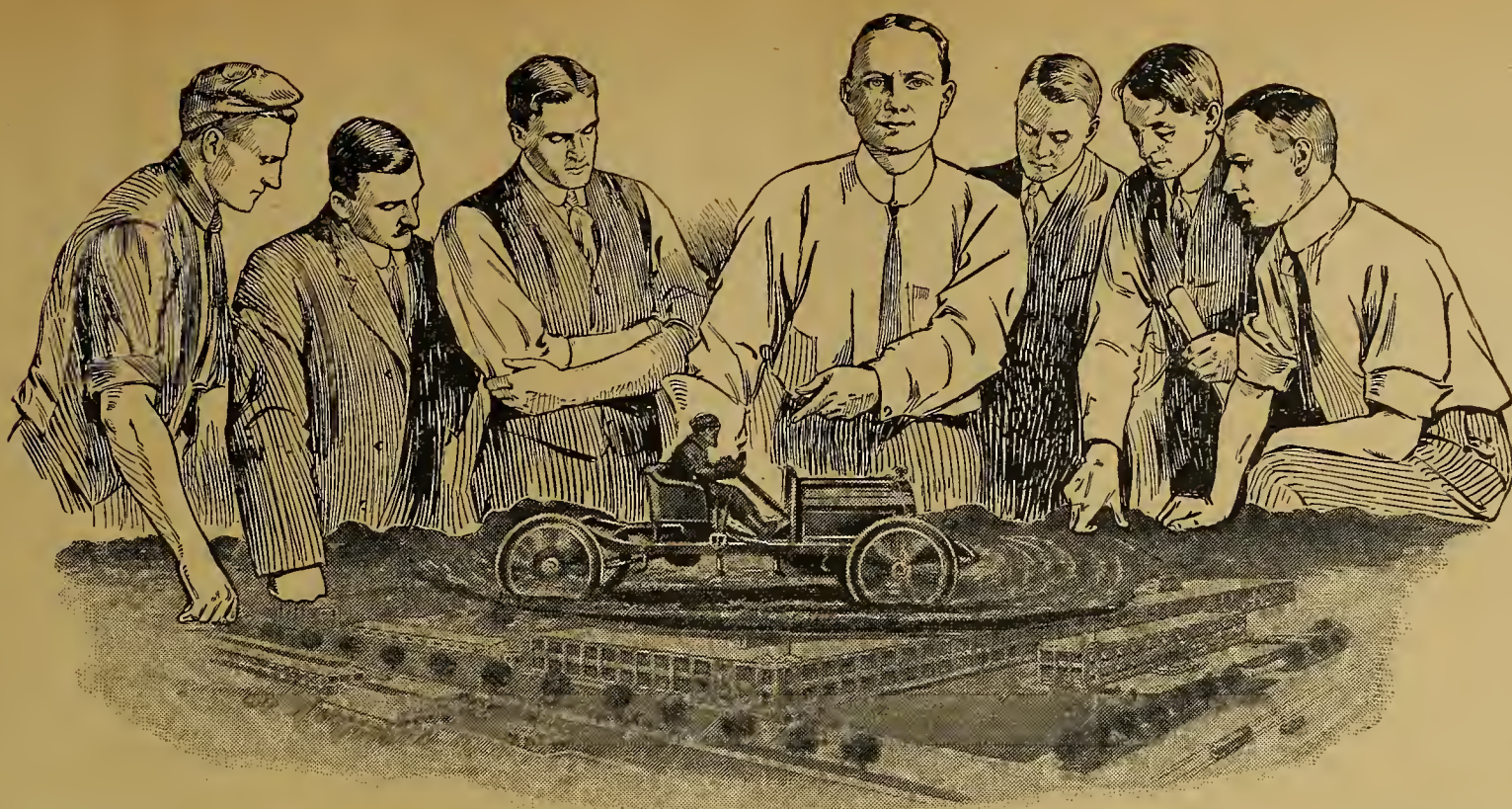
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The New Way—By Automatic



This Body of Engineers Builds a New "33"—Self-Starting

Howard E. Coffin and his Board of Engineers have built their master car—a car you start by merely pressing a button.

These men practice the highest engineering principles the world knows.

Engineers from abroad come here to study under these men. Their chief—like Thomas A. Edison in electricity—drives the milestones of automobile advancement. He and his men in other years designed the motors for more than a dozen manufacturers. Eighty per cent of all the better quality American cars have on them features designed by Mr. Coffin.

He had *previously* built five famous cars—the industry's *leaders*. Each, in their time, was the car of the year. They were so far ahead of their day that several are still sold as leaders in their class.

The latest and greatest achievement of these skilled engineers is the *New Self-Starting HUDSON "33."*

You Press a Button to Start the Motor

That explains the operation.

A child can do it as easily as it can push a button that rings an electric bell.

It is like switching on the current that runs an electric fan.

Yet the self-starting device of the *New HUDSON "33"* is not operated by electricity nor is it operated by compressed air.

It has neither the weight nor complications common to all starters of those types.

It weighs but 4½ pounds and has only 12 parts. Electric starters weigh 175 to 200 pounds—as much as the weight of an extra passenger. Compressed air starters weigh 60 to 75 pounds.

Starts Instantly in Winter

Our engineers tested all types of self-starters. None other was acceptable.

This one started the motor 98 times in every 100 trials. Thousands of tests were made. Cold weather did not affect it. A motor was kept in cold storage for a week. The temperature was 5 degrees below freezing. Ice covered the cylinders. But the motor started at the first operation of the starter.

Other types were not so successful.

Ask any owner of a *New Self-starting HUDSON "33"* how his self-starter operates these cold days.

All distinctive features cannot be enumerated here. Their number is too great. But among them is an advance design which eliminates almost 1000 parts—Demountable rims—BIG tires—an accessibility that puts all important parts and all oiling places within

easy reach. Enclosed valves, dust proof bearings throughout. Fan in fly wheel. A clutch so good that drivers never know they have a clutch, because of its freedom from trouble.

The Quietest, Simplest and Handsomest of All

It is the quietest automobile built. It has power that will shoot it—with full load—up mountain sides—through sand and mud and always with a sensation of strength and of flying that is utterly lacking in many cars.

The springs are of the most flexible, yet non-breakable, vanadium steel. People compare the *New HUDSON "33"* in riding comfort to cars of double its weight and cost.

It is pronounced by experts as the most graceful in line of any car regardless of price. In finish, in upholstery and in every detail of luxurious convenience it ranks in the class of \$2,500 automobiles.

Haven't you at least a curiosity to see Howard E. Coffin's *New HUDSON "33."*

Its great simplicity will be a revelation to you.

At all the important automobile shows this year it will have its most advantageous display, for there it can, at close hand, be compared with all other cars.

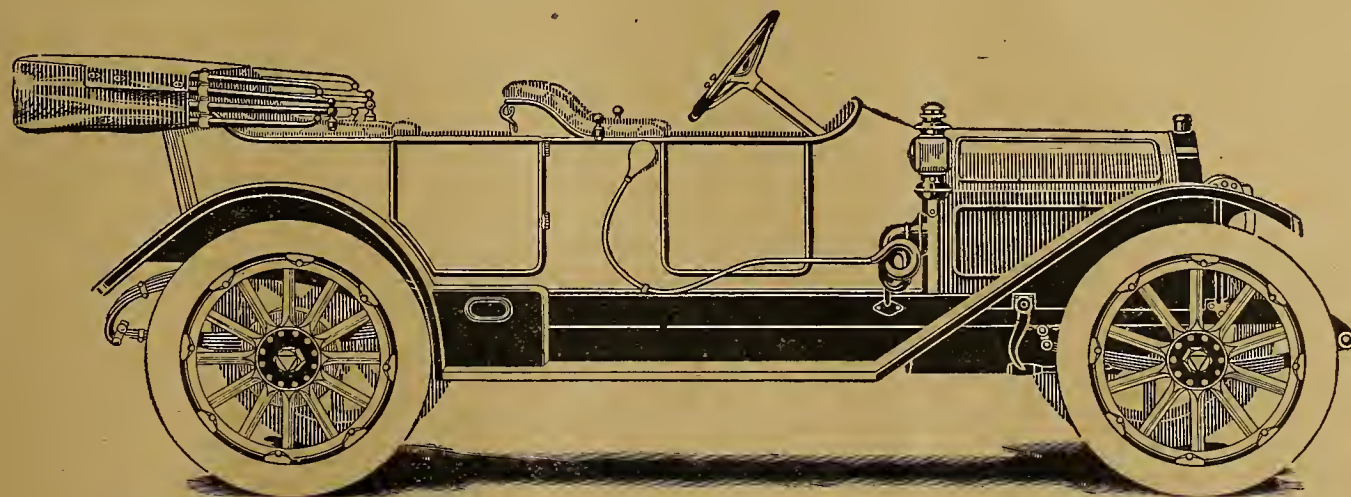
Printed descriptions—advertised promises and pictures are often too alluring and many cars do not fulfill the expectations the advertising has created.

We cannot do justice to the car in a printed description, and therefore ask you to go to see it, compare it with other cars you think well of.

You will marvel at the value Mr. Coffin has incorporated in this last creation.

Go see the *New Self-Starting HUDSON "33"* NOW. So popular was his last year's "33" that more than 2000 failed to get the cars they had ordered, for we could not build them fast enough.

We are leaders today in the number of new cars delivered and still the shortage continues. Better see the *New HUDSON "33"* before all these models too are sold.



The price for either of three models—Touring, five-passenger—Torpedo, four-passenger or Roadster, two-passenger—is \$1600. Not a cent more is needed to equip either car before it is ready for use, for top, Disco Self-Starter, Demountable rims, BIG tires, windshield, large gas tank, magneto—dual ignition system—and all things usually listed as extras are included. Write for illustrations showing how the *New HUDSON "33"* is simpler than any other car.

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Weigh Them

Chalmers "Thirty-Six"

Chalmers Self Starter
36x4 Tires and Demountable Rims
Genuine Cellular Radiator Five Speed Transmission
Dual Ignition Long Stroke Motor 44/54
Carburetor Dash Adjustment Comfort and Convenience
Beauty and Style Price \$1800

Comparison Sells More Chalmers Cars Than All Our Advertising

The farmer wants the car that has the most features designed for *his* convenience, *his* safety, *his* economy and *his* pride of ownership. He compares cars; he weighs one against another.

Some cars seem to be built only to please the builder; some for use only on city boulevards. The self-starting Chalmers "Thirty-Six" has been built to please the buyer—to meet every condition of road and weather. It is bought by men who have compared it with other cars.

If you weigh the Chalmers "Thirty-Six" with any other car and consider them point by point, you will find it the ideal car for farm and town use.

Here are the points which make the Chalmers "Thirty-Six" the most popular car of the year:

- Chalmers Self-Starter**
Does away with cranking. Simple, safe, efficient, air pressure type.
- 36"x4" Tires—Demountable Rims**
Insure ease of riding and rob punctures of their terrors.
- Five Speed Transmission—Four Speeds Forward and Reverse**
Affords utmost flexibility of control.
- Long Stroke Motor**
Maximum power at low engine speed, splendid pulling, longer service, greater quietness.
- Dual Ignition**
Simplest ignition system yet devised. Nothing equals a magneto for furnishing perfect ignition.
- Dash Adjustment for Carburetor**
You can get the proper mixture for varying weather conditions without getting out of car.
- Genuine Cellular Radiator**
The sort you find on highest priced cars. Perfect cooling, longer life, good looks.
- Comfort and Convenience**
Long wheel base, big wheels and tires, deep upholstering, roomy bodies make for maximum comfort.
- Beauty and Style**
Chalmers symmetry is the kind of beauty that means efficiency. Finish is superb—18 coats of paint and varnish. Choice of three attractive color schemes.
- Price—\$1800**
Because of the features listed above and a score of other advantages; because of perfect design, high-grade material, workmanship of the Chalmers standard, the "Thirty-Six" offers the greatest value for the money of any car built.

Call on the nearest Chalmers dealer and investigate this car. Compare it with others at its price—and above. Catalog on request.

Chalmers Motor Company, Detroit, Mich.

Clean and Grade Grain Free!



I'll Trust You I'll LOAN, freight prepaid, my 1912 Chatham Mill. Use 30 days free; then send back, at my expense, or buy on time, paying lowest price on reliable Grader and Cleaner. Positively not one penny asked till mill has proven satisfactory. Free loan includes both Mill and Bagger. (Power Attachment and Corn Grading Attachment, also, where wanted.) The

Chatham Grader, Cleaner and Separator

handles perfectly all seed grains—oats, wheat, corn, barley, flax, clover, timothy, etc. Removes all weed seed, all cracked or sickly grains; all chaff, dirt, dust. Puts pure seed in bags. Handles 80 bn. per hour; gas or hand power. Easiest-running mill on earth.

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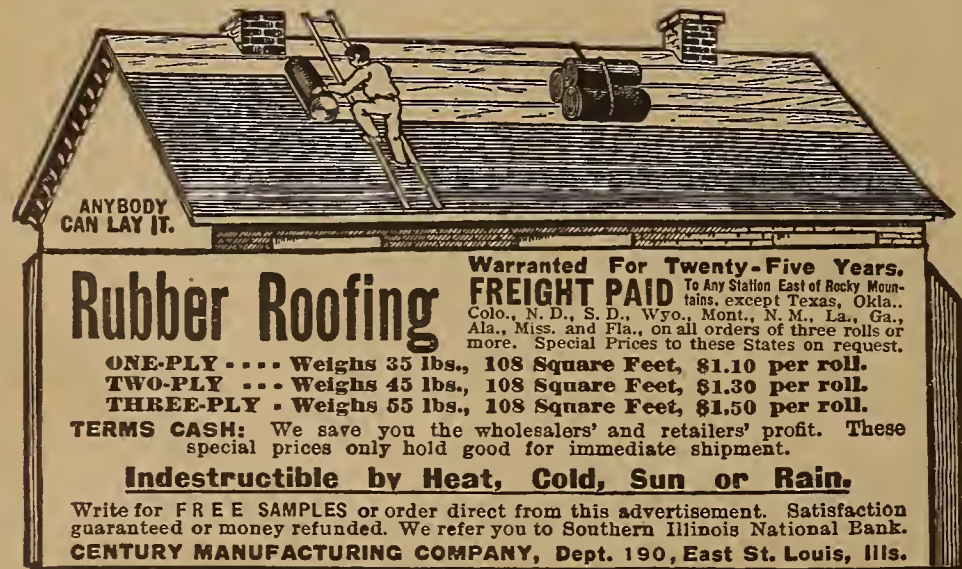
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CENTURY MANUFACTURING COMPANY, Dept. 190, East St. Louis, Ills.

Farm Notes

Using Running Water

It Does Not Always Make Easy the Task of Laying Drain-Tile

IT IS comparatively an easy task to lay drain-tile in a ditch with little or no water. But when the marsh-land is wet and water seeps into the ditch and runs down the grade, it is extremely difficult to lay the tile as it should be.

The following scheme works very satisfactorily. In wet land it is not advisable to dig ditches in advance of laying the tile, because too much water seeps into it and makes the bottom soft. The better way is to dig about one hundred feet almost to grade, then take some peat or sod, and make a small dam (A) in the center of the ditch. If the water in the lower half of the ditch can flow out, this part can be tiled. In order to lay the upper half, it is necessary to get rid of the water which has collected above the dam. This can be done by covering the upper end of the tile with a screen of about one-half-inch mesh and some straw or grass (B). The straw prevents the sand from getting into the tiles, and the wire screen does not permit the straw to enter.



When this is done, the tiles already laid should be covered with straw at the points (C) and then with earth to about one foot deep. Now the dam can be taken away and the water allowed to flow over the covered tiling and into the upper tile through the straw and wire screen. When the water has nearly all disappeared, make another dam about fifty feet from the last tile. Also make a small dam just over the last tile (D), and throw the remaining water over this dam with a pail or shovel. Now another portion of the ditch is ready for grading and tiling, which must be done as quickly as possible, to avoid another excess of water. By this process of making dams and throwing the water down grade, it is possible to drain very wet land and do a good job. If too much water collects and interferes with grading, the distances dammed off should be decreased accordingly. While a portion of the ditch is graded, the last tile should be closed. Clean water running into the tile while they are being laid will not do any harm. Even small lumps of peat will be carried along very easily if the grade is good, but the entrance of sand should be avoided, as this is heavier and sinks to the bottom.

W. J. LUTHE.

Boosting Good Roads

"GOOD-ROADS" boosting is getting to be quite popular. With some it is a fad, with others a sort of pastime and with still others a serious, whole-hearted undertaking for the benefit of the entire commonwealth. I think and believe that I am a good-roads booster—and an enthusiastic one. But I have little respect for the fellow whose enthusiasm carries him beyond the bounds of reason, and whose boosting lacks the judgment of careful consideration. Next to the man who "knocks" highway improvement, I abhor the one who preaches good roads without cost. It is possible to have better roads without an expenditure of much money, but it is not possible to build good roads without money. There are three things necessary to the successful improvement of your roads: they are (1) sentiment, (2) money and (3) brains. And the sentiment is the only costless item on the list.

If you will stop and think a minute, this is just as it should be. Before you acquire anything (except taxes and a doctor bill), you usually want it; the desire is there. If you want it bad enough to pay its cost, you get it. You don't want anything that isn't worth something to you. And if you want it and are willing to pay for it, but don't know how to get it, you ask someone to show you how. There you have the whole thing in a nutshell. The proper combination of sentiment, money and brains will do most anything for you—and it will build you good roads.

Highway improvement is a pretty big thing; it means too much to this and the following generations to be lightly regarded or prematurely undertaken. I don't mean that the improvement should be delayed unnecessarily, or that the first steps should not be immediately taken. But I do wish to emphasize the fact that the first effort toward good roads is only a starter. It is a long jump from the sentiment to the result; just how long depends upon what you have to start with.

There is absolutely nothing wrong with the sentiment for good roads. It is based upon conclusions that are perfectly sound and reasonable. We know improved highways are desirable, because they decrease the cost of transportation, thus increasing

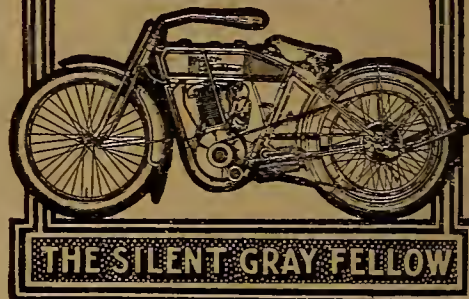
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profits; they increase land values; they improve the moral and educational condition of the rural community; they improve sanitary conditions; they make for a more uniform market; they bring the farm closer to the city, and offer the advantages of commercial and social intercourse. They do all these things, and are therefore desirable. But wrong lies in the expressed conviction of certain misnamed "boosters" that this wonderful condition can be brought about "without money"—almost without effort. Their plan is a good bit like "thinking" yourself out of debt!

In stating that "sentiment" is the only costless item on the list of good-roads requisites, I do not mean that no effort is required to arouse this sentiment, or spirit of desire. Unfortunately, the campaign of education is about the hardest feature of the whole business. It is hard, because men are



When you spend money for a culvert like this, you buy something worth while

so accustomed to doing their own road-building that they just will not acknowledge that someone else can offer a better and more logical solution of the problem. If there are one hundred taxpayers in your road district, there are one hundred different and distinct ideas on "how to build roads." And that's just why good roads were never built. It isn't that the average farmer can't or won't spend the money. He just *won't* let anybody spend it for him! The desire for road betterment and the willingness to pay must be accompanied by a realization of the taxpayer's inability and incompetence to plan the improvement. And right here is where the "brains" come into play.

It does seem odd that such a tremendous business as is the construction and maintenance of public roads should be permitted to operate without competent administration. True, your three commissioners are responsible for the road fund, and it is their duty to insure its proper disbursement. Unquestionably, these officials make sure that the money is *spent*, and quite often it is all spent with honest intention. But the very system under which they labor defeats the object of their efforts. The idea of distributing the road money among the several road districts, to be spent by a number of different men, according to the individual methods of each, is wrong. And that is just the reason why you have so few good roads to show for your many good dollars.

Suppose your county wanted to build a public building costing, say, \$100,000. Would you give \$5,000 to each of twenty men and let them make of the improvement what they would? Certainly not. You'd engage a



The loose earth in the center of the road has driven the traffic to the ditches

man trained in such construction who would insure the proper and *wise* expenditure of your money. The same is true of any business undertaking. There must be some "manager" or superintendent whose training and experience fit him for the duties of his office. County commissioners won't undertake the building of a courthouse, but they unhesitatingly attempt the supervision of highway and bridge construction—a business of which they know nothing. The fact that your roads are not good is eloquent evidence of this fact. Road-building is a business, or rather a profession, just as surely as is architecture. The planning of a serviceable system of improved roads, their construction and maintenance, the whole problem from inception to completion, is one whose solution requires the careful management and trained judgment of a man who knows *that particular business*. The money you spend for brains will bring you better returns than any other equal amount. No matter what the magnitude of your highway expenditure, a competent man on the job will save more than his salary. And the sooner you realize that point, the better it will be for your roads.

It may appear that I am boosting more for a few particular men than for good roads. However, such is not the case. My money is being wasted along with yours, and I am firmly convinced that the cause of this waste lies in the lack of system and absence of

organization and correct administration. By demanding an improved method of supervising our present expenditures, I believe we can do more purposeful good-roads boosting than in any other manner, always bearing in mind that, while good roads cost money, they are worth what they cost.

JOHN N. EDY.

With the Editor

[CONTINUED FROM PAGE 2]

No one but owners of land. All production is carried on by the application of labor to land—and the need of labor being reduced to the pushing of buttons, landowners could live, and all others would be at their mercy.

So the universal giver of employment being the earth, the owners of the earth are those only who in the last analysis have to say as to who shall have labor. So long as our critic had land, he would be safe, even if the push-button system of farming were perfected; and without access to land no system can make him safe.

Not machinery, but our land system is the cause of decreasing agricultural populations.

I am not without my dream, also, of the brotherhood of man, and of farming under it. But I see it as a society based on cooperative farming. The fields are larger than now, and the people live in villages, going out to the work in the morning, coming home with songs at night to sit in the great hall in the village, and look at artistic shows, and listen to fine music. The work is done by the best labor-saving machinery. Automobiles wait to take the people on visits to near-by villages, steam and electricity make the labors of the fields light. The cows are milked by machines, and the bread mixed, and the dishes washed, and the manure spread, and everything that can be done is done by machines. There is no poverty, no lonely life on isolated farms, no crowding in city slums. The work is divided and supervised by specialists. Production is carried on with all the economy of the modern factory, and the produce distributed justly to all. There are no wages, for each works for himself in working for all. And he who prefers to work alone will have access to land as freely as has the cooperative society.

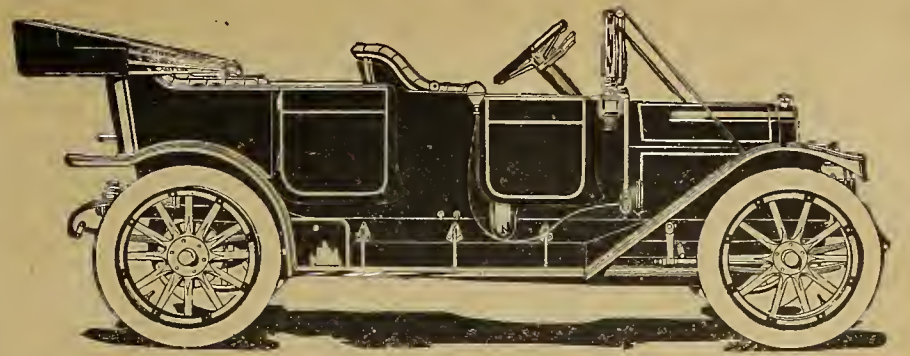
And this dream may be nearer to the realm of the attainable than we are prone to think.

Robert L. Smith

An Extension Short Course

FOR some years in Indiana we have been having a farmers' short course. It is held at the experiment station each winter, and consists of a week's course. Hundreds of farmers have attended, and have gone home with better ideals in their minds. But there were hundreds not able to attend. These went without the much-desired instructions and demonstrations. We have now, in addition to the regular short course, an extension short course, or, in other words, a course held at home.

We had the good fortune last winter to have one of these extension courses at our little town of Bargersville, and the attendance was immense. The halls were furnished by the merchants. The expense money was made up by the sale of tickets. We charged fifty cents for the season ticket,



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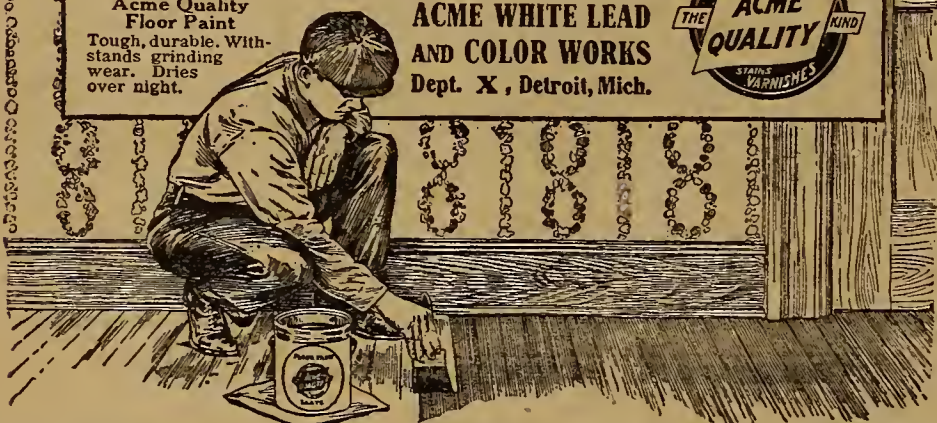
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which was good for admittance every day to all the lectures and demonstrations. This ticket included several courses, such as stock-judging, poultry work, horticultural work, corn-judging, domestic science, with lectures at night. One could choose anything he wanted and leave off what he didn't desire. It was a grand success, this course right at home was, and everyone felt that they more than got their money's worth.

OMER R. ABRAHAM.

Where Bacteria are Found

IT WOULD be much easier to tell where bacteria are not found than it is to list the places where they occur. They are not found commonly very high in the air or many feet down in the soil, nor do we find them in the tissues or organs of plants or animals. Bacteria are to be found practically everywhere else.

From the air Germs occur plentifully in good surface soils and in dust. A teaspoonful of rich garden soil will usually contain several millions. Dust blown about by the wind is therefore instrumental in carrying bacteria through the air. They are, of course, therefore to be found on the surface of practically all objects in nature. The food we eat, unless freshly and thoroughly cooked, usually contains large numbers of bacteria.

This does not mean that such food is necessarily harmful or dangerous. It can only be so if the bacteria present are disease-producing forms or have produced putrefaction. Fresh-drawn milk usually has several thousands of bacteria to a teaspoonful, and sour milk and buttermilk usually have many millions in the same quantity. Water, even from deep wells, ordinarily contains some bacteria, and that from streams may have enormous numbers. The skin of man and of animals always harbors bacteria. Many kinds are to be found normally in the mouth and in the digestive tract.

In the large intestine or colon they increase to such an extent that from one fourth to one half of the feces or stools of man are made up of bacteria. With these germs so universally distributed, it is evident that nothing can ordinarily exist long in nature without coming in contact with myriads of bacteria.

R. E. BUCHANAN.

Trapping Kinks

FOR trapping skunks here in Massachusetts I wait until there is a thaw in February, then I track them in the wet snow, and after locating the den, I set the trap at the entrance, and I get the skunks every time. A mild or warm day in winter is a good time to get skunks, as they do not like cold weather.

For mink I look along a stream or in a spring and set trap (No. 2) at the entrance of a natural or artificial hole in the bank baited with rabbit or fresh fish. They are fond of both. In trapping for muskrats, I locate a house in a pond. These are quite numerous in some localities, and when ice is on the pond, I set the trap inside of the house. As a rule, after a muskrat is driven from his house, he goes to another house and won't come back for perhaps a day or so, and then he gets caught. In spring, after ice gets too thin, I locate runways in fields or swamps bordering a pond, and if I find a wet, muddy place where muskrats come out of the water, I set usually two traps staked into water by a bush. I cover the traps very lightly, with surroundings, to hide them from people's view. This set I recommend highly, as I have been most successful with it. Bait is not necessary.

Trapping foxes or otters is not an easy matter. A fox is exceedingly shy, and if the smell of iron is left on your trap, you cannot get him. I always boil my traps in liquid made from boiling evergreen (hemlock) boughs. I have the traps set before boiling and then handle them with a stick. Locate the runway or path that the fox travels, and set your trap. Fasten it with a chain to a stout tree or log. Cover with grass, leaves or snow, and don't touch them with your hands, for the fox is suspicious of human scent. Bait with liver or partridge-meat or rabbit, hung about three to four feet above the trap, so the fox will have to jump or stand up for it, and when he comes down, he steps into your trap. Leave all surroundings as natural as possible.

As most every trapper knows, otters are caught on their slides; these animals are the most suspicious animals that I know of. They are exceedingly keen of scent and can smell a trap at quite a distance. Traps should be set about a foot from the base of a slide and staked into the water. A No. 3 trap is used for otters, as an otter slides down with his front feet doubled under him. He straightens out to swim when he strikes the water, and in that way he is caught.

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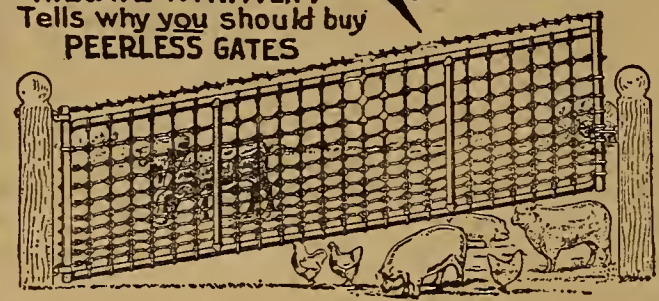
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Edwards "REO" Steel Shingles

"Tightcote" Galvanized

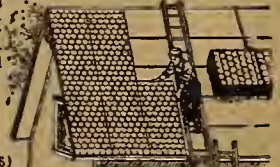
LAST FOREVER because all four edges as well as the weather side and under side are galvanized by the famous Edwards "Tightcote" process. Each and every Edwards "REO" Interlocking Steel Shingle is dipped in molten zinc—after the shingle is made. Not a particle of the shingle but that is thus protected by the heavy coat of galvanizing. The lowest priced roof NOW and for years to come.

We Have a Special Cash Money-Making Proposition for One Man in Your Community

If any of your buildings need roofing, you are the man. Send dimensions of your buildings and we will quote you cost of an Edwards roof, freight prepaid. You get your roof at agent's price. Write for the offer today!

The shingles are made of high-grade Bessemer steel in sheets 6 to 12 feet long and 24 inches wide. Either painted or galvanized. Ready to put on. Hammer and nails all that is required. Anyone can do it. Can be applied over wood shingles or on sheathing 12 inches apart.

\$10,000 Ironclad Bond Lightning Insurance We agree to refund the amount paid in every case where a roof covered with Edwards Interlocking "Reo" Steel Shingles is destroyed by lightning. This guaranty is backed by our \$10,000 Ironclad Bond and stands forever.



Ask for Free Roofing Catalog No. 358
THE EDWARDS MANUFACTURING COMPANY
308-358 Lock St., Cincinnati, Ohio
Largest Manufacturers of Steel Roofing Material in the World (66)

I catch raccoon by finding a muddy place along a stream where they wait for their supper, which is composed of fish, frogs, etc., and sink trap in the mud and fasten to something very strong, as usually they get rough and carry the trap away. Another good place is in a corn-field around a bunch of corn, or under the roof of a tree along a stream or lake. Cover all the traps lightly. Don't have anything interfering with the pan of the trap or anything heavy over the jaws, as this will stop the trap from springing.

A. W. BELCHER.

A New Use for Bees

THE sting of the honey-bee is said by some to be an excellent cure for rheumatism, when applied systematically.

One sting will not cure your rheumatism, neither will two or three, but if you let one bee sting you every day, your rheumatism will soon disappear. That's what some prominent physicians say who are watching an interesting experiment in Cincinnati, Ohio.

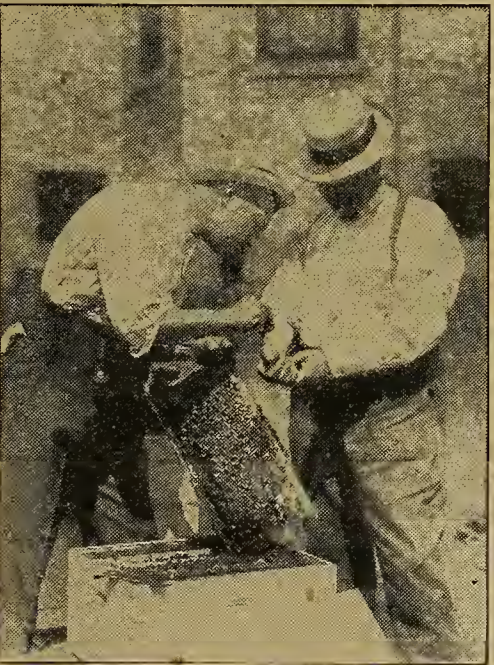
John Renner of Cincinnati, long a sufferer from rheumatism, is taking the bee-sting cure. One illustration here shows John Renner standing beside the open beehive while stinging bees are being applied to his



The bee on the left is just beginning to sting, while the other is just finishing, leaving its sting in the arm

arm. At the time this is being written he has already taken two weeks of the treatment, about seventeen stings, and he likes it. At first hardly able to hobble about with the aid of a cane, Renner can now walk almost as sprightly as any person. It is estimated by physicians that the poison injected into his system by the stinging bees has made the marked change in his chronic condition.

Only a few cases are on record where bees were used to cure rheumatism. Mr. Fred W. Muth, who is applying the stinging honey-



Getting stung

bees to Renner's arm in the above illustration, became interested in bee culture through his having rheumatism. Now he has bees and no rheumatism.

Physicians who are watching this interesting experiment say that the formic acid which makes the sting of the bee so sharp and painful for the moment is the agent which nullifies the dreadful rheumatic pains. Sharp and painful as the stings are, it is a pain of relief compared to the dull and incessant pain of the rheumatism, declares Renner, the patient.

In the above novel treatment the patient visits the apiary twice each week, taking from three to five stings at each visit. After the system is once inoculated with the formic acid of the bee-stings, the person becomes immune to rheumatic attacks. S.

The Farmer's Scale

A FARMER to be successful must do business on business principles. Every merchant who offers anything to sell, always keeps one or more scales on hand. He does not rely upon the farmer or vender to weigh his produce, stock or fowls, but weighs on his own scale everything he buys from the farmer and everything he sells to anyone. Now why should the farmer put more faith in the merchant than the merchant puts in

the farmer? Every farmer should keep an accurate small scale to weigh such things as butter, chickens and grain or vegetables in small quantities, and also a large platform scale to weigh stock and produce. Most farmers when taking a load of hay to town to sell, guess at the weight, and sell accordingly, and so do business in the dark. If not they weigh their produce on the public scale, paying a fee of twenty-five cents or thereabouts per load. If much stock and produce are sold, the fees charged will soon exceed the interest on an amount invested in a first-class scale. And how does the farmer know the public scale is correct unless he has weighed at home the things sold?

It is always best to sell everything by weight when practical. Measures are uncertain. If the farmer keeps posted, it is an easy matter when the butcher comes to agree on the price per pound for a hog, cow or sheep, but it is quite a difficult thing to agree on their weight. If the farmer has a suitable scale, the animal can be driven on, and the matter of pounds determined at once. When the farmer is feeding live stock for market on high-priced feed, he must weigh them at least every three weeks to find out if they are gaining pounds enough to make the venture a paying proposition.

You never know whether or not your grocer or his clerks are honest unless you weigh after them. I have always kept good scales and so have caught up with several dishonest dealers. It pays.

E. W. ARMISTEAD.

What of the Cost of Living?

I HAVE been greatly amused over the cry of "back to the land" that has been in many papers of late years. The trust cry that the farmer is responsible for the high cost of living is perfectly absurd. We went to housekeeping nine years ago on October 1st, and have kept a complete account of our living expenses. We always had a good garden, sometimes two town lots. When we went to housekeeping, we had potatoes and canned fruit enough to do us the first winter. In the following table of expenses no rent is counted, as we lived in our own house nearly all the time. October 1st was the beginning of our fiscal year.

YEAR	Eatables	Other Expenses
1903	\$76.42	\$104.52
1904	137.12	254.03
1905	180.98	272.73
1906	170.89	301.94
1907	203.03	288.81
1908	166.14	227.88
1909	181.45	286.26
1910	151.38	384.60
1911	171.65	238.67

Nine years... \$1,439.06 \$2,359.44
Average per year 159.78 262.16

It will be seen from the above table that the eatables cost a great deal less than half the cost of our living. If to the other expenses rent be added, the difference of cost will be greater. As tea, coffee, spices, etc., were included in the cost of our eatables, the American farmers did not raise that \$1,439.06 worth; and as most of our eatables were bought at the town store, the farmer did not get nearly all we paid. The "Yearbook of the Department of Agriculture" says that of the price paid by the consumer the farmer gets the following per cent.:

Eggs, in cases, 69; beans, by bushel, 75; cabbage, by head, 48.1; cauliflower, by dozen, 75; celery, by bunch, 60; apples, by bushel, 70.6; strawberries, by quart, 48.9; onions, by peck, 27.8; blackberries, by crate, 83.3; green peas, by quart, 60; hay, by ton, 82.2; oats, by bushel, 73.6; potatoes, by bushel, 59.3; watermelons, singly, 33.5.

From the above, I am convinced that the farmers never get hold of one third what our living cost. Back to the land will never solve the high cost of living, though it may help a little.

E. E. KEELER.

Stock are liable to swallow crushed corn and other fine rations too quickly for it to be thoroughly masticated. Therefore, break up an ear or two of corn to feed with the chop.

Sugar-Beets This Year

LOCALLY, this past season, sugar-beets made close to ten tons. The tops will go four tons, valued at eight to ten dollars, on the ground. If the farmer has any quantity, say enough to feed into the winter, he allows the tops to lay two weeks as they are cut, and then stacks them in very small shocks similar to hay. These piles are fed out until late winter, when they are stacked like so much hay. Beet-tops and small beets find a wide usage in both swine and cattle feeding, principally the latter. Stockmen have found beet-tops have a laxative effect and hence are excellent feed for brood-sows.

C. BOLLES.

Feed roughage to the stock before giving them grain, as it invigorates and excites the digestive apparatus to action.

Diamond

TIRES

MADE TO FIT EVERY TYPE AND STYLE OF RIM

THE up-to-date farmer—the man who owns an automobile) buys reliable, selected seeds because he knows that only good seeds result in a bountiful, profitable harvest.

In buying Automobile Tires you should follow the same plan. The price you pay for a tire is the seed—the mileage you get from the tire is the harvest. Cheap tires produce a poor crop of mileage—while Diamond Tires bought on a Quality basis always produce a bumper harvest of Miles and Wear.

Diamond Tires were the first automobile tires made in America—and from that day—fourteen years ago—to this, more Diamond Tires have been sold each year than any other single brand of tires in the world. And the reason that more Diamond Tires are sold each year is because tire buyers know from experience that they can absolutely depend on Diamond Tires to deliver the greatest mileage.

Diamond Tires are built of the very best selected materials, in the largest Tire Factory in the World, by men who have had a longer experience in tire building than any other manufacturers. They are rugged, staunch, reliable tires made to fit all types of rims and on a Mileage and Service basis are the cheapest tires you can buy.

If you are about to buy a new car, insist that it be equipped with Diamond Tires before you place the order. The car will cost no more with Diamonds than with cheap tires.

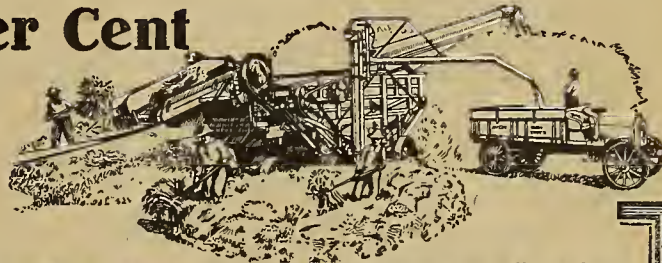
Remember—the car maker does not guarantee the tires on the car he sells you; his responsibility ends there but yours begins.

There are Diamond dealers everywhere—there's one near you. And Fifty-Four Diamond Service Stations that take care of Diamond tire users. If you don't know who is your nearest Diamond dealer, write for our 1912 Catalogue—It's Free.

The Diamond Rubber Company

AKRON, OHIO

99%¹⁰ Per Cent Grain Saving Proved



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An Avery puts the farmer's grain in the wagon and not in the stack. No green straw stacks after an Avery "Yellow Fellow".

AVERY "Yellow Fellow" Separators

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There is a new and better farm right under the old one. Subsoiling with Red Cross Dynamite gives you 6 feet of top soil instead of 6 inches.

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To learn how progressive farmers are using dynamite for removing stumps and boulders, planting and cultivating fruit trees, regenerating barren soil, ditching, draining, excavating and road-making, ask for **New Farms For Old,** No. 90

DU PONT POWDER CO.
PIONEER POWDER MAKERS OF AMERICA
WILMINGTON, DEL.

Crops and Soils

Why Not Pumpkins?



PUMPKINS are becoming much more useful as commercial articles from year to year. The products made from the pumpkin are seen in the canned article, the seed and the meats, for it is useful in helping to form pork and beef.

Before the art of canning was so well known, in fact back when this country of ours was a forest with the little clearings here and there, pumpkin was relished as much as now, possibly more, and it was kept up into the winter by cutting it in thin strips and drying it. Quantities of pumpkin butter were also made up. Now all has changed. Large quantities are used for canning, the seeds are on the market for planting and immense quantities are used to balance the all-corn ration of hogs and cattle being fattened. While pumpkins are mostly water, and analyze but little of actual nutrients, they are very important in keeping the digestive system in working order.

Pumpkins can be produced cheaper than any other conditioner. We are yet to find the feed that feeds better in connection with corn in the fattening of hogs. Hogs relish the seeds also, and we are told that the seed is a vermifuge. We think they are, for so long as we have plenty of pumpkins our hogs very seldom get "off their feed."

As a winter feed for the brood-sow, we never saw a better conditioner, and never have had any trouble with brood-sows eating their pigs if the sows had been fed pumpkins through the winter.

Pumpkins to do well require pretty rich soil. Black soil in the Central States usually seems to raise a good crop of them.

Throughout this section of Indiana for many years the practice has been to plant the pumpkins in the corn, most generally by mixing the seed with the seed-corn in the planter-box. As a rule, no difference could be seen in the yield of the corn.

It seems that the practice of planting a patch alone is growing in favor, for quite often this patch can be around some old feed-lot, or in the "point rows" of the corn-field, or along some stream or ditch.

In this manner they are planted a great deal as one would put out a watermelon or cucumber patch. One of the best ways is to mark off the ground sufficiently for the hills, 8x8 or 8x10 feet. Where each hill is to be made, dig out and put in a shovelful of well-rotted manure. Plant eight or ten seeds in a hill. You want a good stand, and quite often the mice are bad. It may be necessary to put out a few seeds on several of the hills each night, to keep the little rascals from digging out the planted seeds.

Cultivation may continue as long as the vines are not in the way. Shallow cultivation is best in most cases. When the pumpkins ripen in the fall, or before any frost comes, haul them carefully to the barn or shed. Leave a piece of the stem on each pumpkin. Cover them with hay or straw. Sort them over occasionally, but keep them covered. You can have pumpkins to feed till Christmas or later. If they freeze through their covering, and you have an old open well or spring, place them in it and thaw them out.

OMER R. ABRAHAM.

You cannot make some farmers more angry than to ask them to stop and cut some wood before going to the field; yet they insist upon having dinner promptly.

Soil Exhaustion

Is the Tenant-Farmer to Blame for It?

IT is generally believed that tenant-farmers are "soil-robbers." It is not uncommon to hear the statement, "The tenant-farmer skins the land." The two phrases, "soil-robbers" and "land-skinners," are not exactly identical. There is a suggestion that land-skinning is soil-robbing of a superficial character. The most intensive cultivation of the land takes more from the soil than does extensive culture. Tenant-farmers, especially share tenants, are rarely inclined to devote very large amounts of labor per acre.

In share tenancy the landlord puts up a definite area of land against an indefinite amount of labor. The tenant usually determines the amount of labor and finds it to his interest to use labor more sparingly than he would if he owned the land. For this reason the share tenant finds it to his interest to take less of the exhaustible elements of fertility from the land in the form of crops than does the owner.

Crops are, of course, only one of the causes of soil exhaustion. The washing of the land is under some conditions a greater source of loss than is crop production. The tenant is much less interested in preventing losses from erosion.

But soil exhaustion is not to be measured simply in terms of the amount of the elements of fertility taken from the soil each year; it is the difference between the amount taken from the land in crops or lost by erosion, and the amount put back in the form of manure or commercial fertilizer, which is the true measure of soil-robbing.

As a class, tenant-farmers sell a larger share of their hay and grain and feed fewer

How We Whipped Them

OUR big true story of how the farmers whipped the grain, coal and lumber combines will begin in the next number and will run for five consecutive issues.

live stock than do farmers who own the land they cultivate. This means that tenant-farmers return to the soil a smaller percentage of what they take from it than do owners. It is doubtful if this practice conforms to the best interest of the tenant. The care of live stock provides profitable employment for the farmer at times when he cannot be employed in the production and marketing of grain.

Aside from the profit to be derived from feeding live stock, there is an increased crop yield where cattle are fed on the farm and the manure utilized upon the land. Whether this is important to the tenant depends upon whether he is allowed to remain on the farm to reap the results.

A proper system of regulating the renting of land would provide compensation for the fertilizer produced but not realized upon by the tenant. The landlord who wants his tenants to give thought to the production of manure must not only place a true value upon this product, but be willing to pay for the supply on hand when the tenant leaves. The animal-food left upon the farm is paid for by whoever gets it, but the landlord wants the plant-food (manure) for nothing and grumbles because there isn't much. Place a true value on the tenant's manure-pile, and the pile will grow.

Lack of capital is one of the important reasons why tenants sell feedable crops instead of keeping live stock. It takes much less capital to produce and sell grain than it does to combine grain-growing and stock-feeding. In grain-growing the tenant's investment is not only smaller, but the return is quicker than in grain and stock farming. It does not follow, however, that the rate of return is higher in grain-farming. Very likely it is not, but a young man without enough capital to become a live-stock farmer can usually make more as a grain-farmer than he can as a hired man. The solution of this phase of the problem of soil exhaustion must be found in a better credit system or in a form of tenancy in which the landlord provides live stock to consume the feedable products of the farm.

The tenant-farmer is not wholly responsible for the fact that he is a soil-robber. The landlord is quite as much to blame as the tenant. It is up to the landlord to make it both possible and profitable for the tenant to farm in a manner which will keep a supply of plant-food in the soil.

HENRY C. TAYLOR.

The Rothamsted Amoeba

SCIENCE has again come to the rescue of an extravagant and wasteful world. Bake the soil and you can double your crops, is her latest dictum. This will be good news for Mr. Hill and other prophets of famine, who declare that the appetite of the world is rapidly overtaking its productivity. The United States, they say, will, unless something radical is done, before many years be importing instead of exporting food products. Other nations being in the same boat, there won't be enough food to "go round"—

and there you are! Mr. Malthus' theories will then come into play. Whether this unpleasant outlook has stimulated the Rothamsted, England, chemists to special efforts, or their discoveries are the result simply of normal researching, the fact remains that they are in the highest degree timely.

Even the truck-farmer knows that bacteria play an important rôle in rendering the soil fertile. The so-called nitrifying bacteria which enable growing plants to draw upon the immense store of nitrogen in the atmosphere, were discovered nearly twenty-four years ago. The decay of animal and vegetable matter, which must precede its use as a fertilizer, is caused by bacteria.

The recommendation of the Rothamsted chemists to bake, or Pasteurize, or disinfect the soil therefore seems at first sight like a direct contradiction of these modern theories regarding bacterial fertility. This is very far from being the case, however, as they proceed to explain. It seems that ordinary soil has, besides its bacterial population, a lot of other inhabitants—great, hulking individuals, a thousand times as large as bacteria and yet very small—which, like our human giants of the olden time, spend their days hunting and devouring their smaller neighbors. These bactivorous creatures look like amoebas; that is, they are jelly-like living masses.

It was accidentally discovered many years ago by our Alsatian vine-grower that soil treated with disinfectants became more fertile. Later heating was found to have the same effect. For years these discoveries attracted no attention, and apparently were never satisfactorily explained until the recent work at Rothamsted cleared up the mystery. It appears that these other bodies of the soil are much more sensitive to heat and germicides than the bacteria. When the soil is so treated, the former are killed, along with many of the bacteria. But enough of the latter remain to begin a repopulation as soon as conditions are favorable.

They then breed and multiply enormously. In a week or two there are thirty or forty millions of bacteria in each grain of soil. The result of this enormous increase of bacteria (most of them ammonia-makers) is to double the crop grown on that piece of soil. The beneficial action of the heating lasts through four crops. It is believed that some practical utilization of this discovery is not remote.

It is not out of the way, however, to call attention to the very obvious difficulty in the way of heating the tillable soil of, say, a two-hundred-acre farm to a "temperature of 212 degrees Fahrenheit for two hours" every four years. Aside from this defect, the discovery seems of immense practical importance. It is extremely interesting, anyway.

V. J. YOUMANS.

Who Should Maintain Soil Fertility?

THIS question should concern every citizen. For, whether conscious of it or not, every citizen has an interest at stake in the soil of his country. His business cannot be so remote from the production of foodstuff and clothing as not to be affected for better or for worse as the source of foodstuff and fabric is improved or depleted. Nevertheless, the great majority of citizens of this, or of any other country, take but a casual interest in this vital subject. The majority are not farmers or farm-owners, and always having had enough to eat and to wear, they assume that they and their children will continue to be fed and clothed. The fact that some spots of the earth's surface once fertile are now barren has no interest for them; it is also true, they reason, that other parts of the earth have been farmed a thousand years and still yield abundantly.

If, then, society cannot be trusted to look after soil conservation, how about those more immediately concerned, those whose income is directly affected? Of these classes the most important are the owner and the tenant. In 62.9 cases out of every hundred the American farmer is also the operator; in 37.1 cases the owner is not the operator, the latter being a tenant. It is plain that both the owner and the tenant must derive income from the same piece of land. This being true, which shall take the responsibility of keeping the soil up to its best? Both ought to be concerned in doing so, even from a selfish standpoint, for both derive income from the product. On the other hand, neither is likely to be moved from an altruistic standpoint to prevent soil depletion. Before deciding from which party the initiative must come, it is well to consider the relative interests of the two. The tenant stays on an average not much over three years on the same farm, hence his concern for the welfare of the soil is hardly likely to outlive that period of time. It is of no use to preach to him about the danger that the potassium will give out in 150 years, or that the nitrogen will last only a few decades. He knows that he cannot exhaust it in the one, two or five years for which he is likely to have the farm in charge. If he contemplates buying a farm, it is not, nine times out of ten, the one he has been operating. Thus, under the circumstances, little can be hoped from him in the way of better treatment of the soil. He is farming

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in order to get what he can out of the farm and to get it soon. The sooner, the better!

This, by elimination, brings us to the landlord as the final hope. If the owner of the soil cannot be trusted to conserve the soil, it must deteriorate. Too often the landlord has bought the farm in anticipation of a rise in its market price. He is a speculator, and so he, too, worries little about what the soil will produce forty years hence, but only what it will sell for within a period of a quarter as long. Nevertheless, it is the landlord through whom the improvement must come. When land ceases to rise so fast in value that its rent, rather than its unearned increment, is the essential thing, the landlord then in possession will bethink himself. And when this time comes, the landlord in charge will take his tenant into his confidence and will make it to the interest of the tenant to stay a long time on the same land. Then the tenant will concern himself with what the soil will produce a decade and more in the future. He will not lose the added fertility which his last years of operation have put into the soil, but, as is now the case in England, he will be paid for this its full market value. The landlord who anticipates this general movement and carries out this program before he is compelled to do so will make himself, his tenant and his community the richer. But while society will have to make some regulations, and while the tenant will have to be educated, it is the landlord who occupies the strategic position through which the forces must act.

BENJAMIN H. HIBBARD.

The Drill on the Farm

IN ORDER to raise a maximum crop of grain, the farmer must produce a maximum crop of grain plants. By this I do not necessarily mean that he should crowd the ground—we are all inclined to sow too thinly—but rather that a maximum crop is produced by an even stand of uniform plants. This also will produce the greatest tonnage of straw or fodder, and we are safe in saying that heavy yields of grain come from heavy plants.

A heavy yield of plants is produced from an even stand of uniform plants. Heavy tonnage of any crop is never made on a patchy looking field. The field that gives the tonnage, whether it be hay, corn, fodder or grain, is not the one that shows a heavy jungle here and a bare patch there scattered through a mass of just an ordinary crop.

It is not alone the tonnage of fodder and the bushels per acre, but also the uniform quality of the grain that is effected by the evenness of the stand. One cannot hope to produce the same grade of grain upon the thin patches that he will find where the plants are evenly distributed. In the thin patches and around the margins of open places the plants will grow larger and stay green after the others are ripe, producing giant heads and kernels that lower the grade of the whole.

One of the greatest factors in the production of uniform plants is the uniform distribution of the seed. Uniform distribution over the surface is not sufficient, but uniform depth of planting counts for quite as much. We cannot hope to produce uniform plants when some of the seed lies on the surface and the rest is buried all the way from nothing to four inches.

The machines manufactured to distribute seed in the proper manner are called drills. Why a farmer should attempt to do without one is hard to understand. He may in some cases get nearly as good a crop by shiftless methods, but it would be just the same for him to do without insurance on his buildings.

The accompanying diagram shows the results of four years' (1908, '09, '10, '11) trials at the Iowa Experiment Station. This work was conducted with winter wheat, and while the difference is not great, it shows a difference of four bushels per acre net gain for the drill. This means that, taking one year with another, twenty-five acres will pay for a drill.

When a seed sprouts and starts to grow, it first throws out two or three rootlets. These enter the soil and take up water for the stem which shortly starts to grow upward. Soon after this stem appears above the ground, a second set of roots are thrown out in the surface soil. As soon as these roots are well established, the first roots die, and what is left of the seed rots, and all the food of the plant is gained from its new source of supply. Now it is evident that any depth greater than is necessary to obtain moisture for germination is detrimental, for it delays by just that much the growth of the plant. Deep planting does not have any influence upon the depth of the root system of the plant. In sowing small grain, the farmer should go to his field in the morning and scrape away the dry top soil. It will be easy to see how close to the surface the moisture rises during the night. The seed should be placed just in the top of this moist soil. It is rarely over two inches below the surface.

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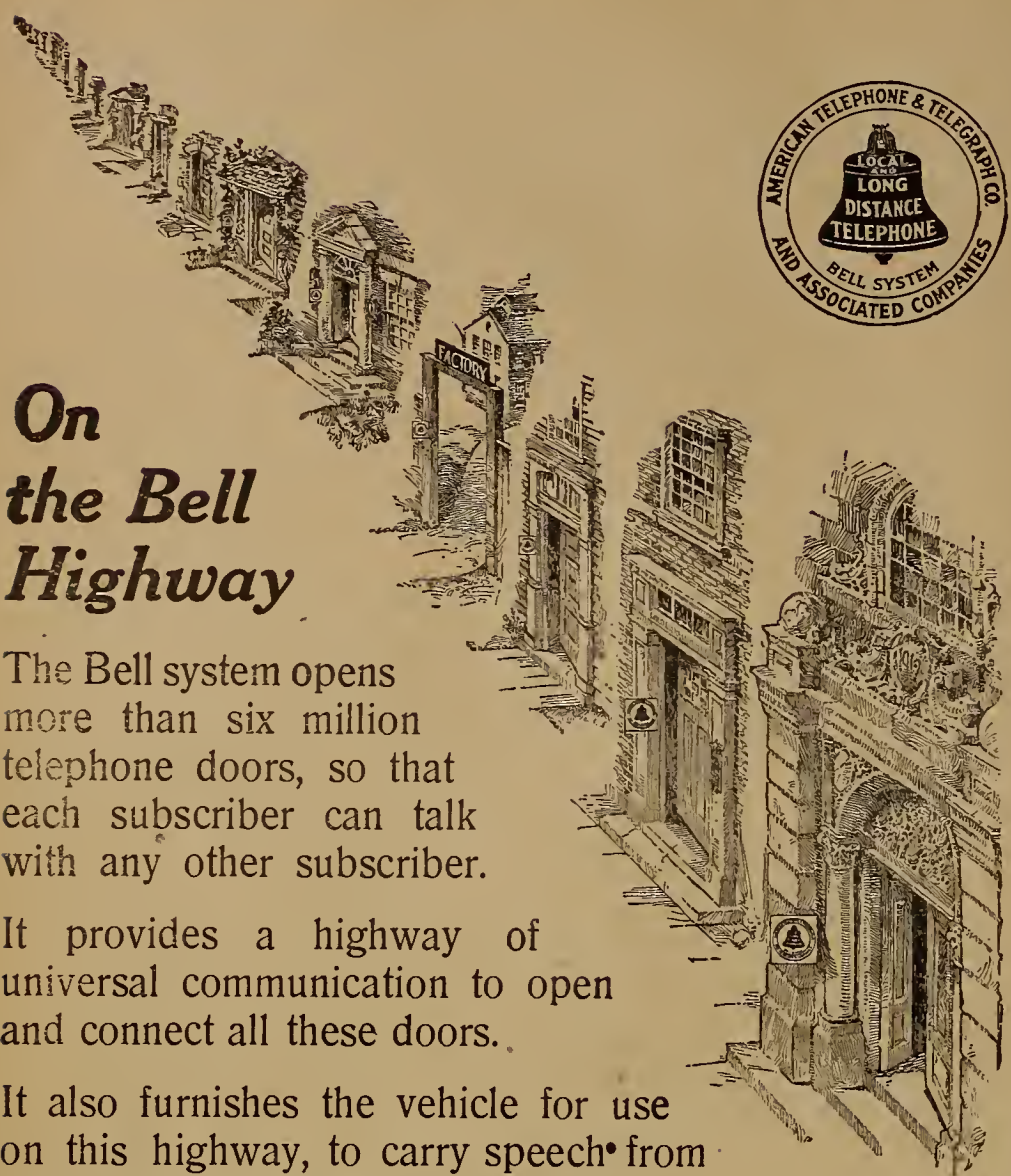
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Garden and Orchard

Sugaring Time

By Berton Braley

WHEN the sap begins to run
Following the thaw,
Somehow seems that spring's begun,
Spite of winds so raw.
Round and round within my head
Runs this little rhyme:
"Winter's dying, spring comes flying"—
Maple-sugar time!

When the sap begins to run,
Every tree you tap
Gives its drops just one by one,
Slowly drains the sap.
But the pails are full at last,
Then you boil it down—
Nectar which nor poor nor rich
Ever taste in town.

For there's something in it then
Fresh from out the vat
Which you never get again—
Something in it that
Sends a thrill adown your throat,
Stirs your thoughts to rhyme:
"Winter's going, spring is showing"—
Maple-sugar time!

When the sap begins to run
Following the thaw,
All my murmurings are done,
Life's without a flaw.
Pour the syrup on my cakes—
Hear the joy-bells chime!
Winter's dying, spring comes flying—
Maple-sugar time!

The Farm Garden

IT ISN'T a bit too early to begin operations looking to the making of a good farm garden this year: the first thing to do is go out and measure the plat; be accurate about it; take the good woman of the house along to hold one end of the tape; it is better to get her interested now, for you will need her help by and by. The chances are that she already knows more about what a good garden should be like than you will ever know.

Next make a plan of the plat; it is a pretty good practice to make it on a scale of two inches to the yard. It works out pretty well on that scale. Go at the job with a view of keeping it until this time next year. When you make your next plan, you can then look after the proper rotations.

Send a postal card to some of the leading seed-houses, asking them to send their catalogues. Don't depend on "store" seeds. Judge of the house you will patronize by their catalogue. And then get the best seeds.

If you are farming right, you have some nice fresh manure out at the barn which has been liberally sprinkled with floats. Make a liberal application of this. Turn it under. Take narrow furrows, and plow a little deeper. This mixes the top and bottom soil. Let the hens in. The cold and hens will make it hard for cutworms and other such depredators. It is a good plan to seed the garden to rye and let the hens pasture on it during the winter. The droppings help.

Most gardens are nearly square. If yours is, make the rows at right angles with the road so people going by can the more readily see what a really good garden looks like. Make the rows straight.

Now, having the outline of the plan, dot two-inch spaces along the two sides, which will serve to show the ends of three-foot rows.

"Wife, what shall we plant along that farther fence? As it is quite a little ways from the house, let us plant something which is not used every day. What was there last year? Peas? Well, let us plant the three or four farther rows to sweet corn. We didn't have enough last year. Let us plant two rows every two weeks for two months."

"After the corn, let us plant two rows of very early potatoes, for you know, John, that when we wait for the field potatoes, you never get them in as early as you figure on, and then, too, it is usually so far to the patch."

There you are, the wife will help you out, the only thing is to get it all on paper, don't wait until the garden is plowed, then expect her to think it all out in a minute, and end the matter by throwing the seed in the ground haphazard; the only rotation which I would watch very closely would be to follow the legumes (peas and beans) with something else, and of course don't always plant the potatoes in the same place. It is also better to change the cabbage and tomatoes.

Plant in three-foot rows until we get to the perennial rows; these should contain rhubarb, horseradish, sage and such other seasoning herbs as one cares for. Some things grow large and should be planted in hills six feet each way.

Reserve the dampest place for the celery; take a chance with the frost for the sake of having early corn and beans, but don't plant all you intend to raise at once. Plant in succession.

Plant radish-seed between the hills of whatever you plant first. Plant radish-seeds with the beet-seed. Never give radishes any room for themselves. It is also well to plant a few lettuce-seeds between the hills of corn. Plant the peas thick. Plant the hardy varieties early—they will stand it. Plant to suit yourselves, but try doing it on the paper first.

As to fertilizer, buy the raw materials, and mix them at home. We must get a little extra for the garden. After the garden has been plowed again, go out to the raw materials and take of nitrate of soda, 40 pounds; dried blood (red), 40 pounds; Thomas phosphate, 167 pounds; sulphate of potash, 67 pounds.

Mix them thoroughly, and apply broadcast before harrowing, and incorporate thoroughly with the soil by the use of a smoothing-harrow.

The above formula is approximately at the rate of one thousand pounds per acre on our garden of one-third acre. It is a high-grade article, being about 4-8-10. If you use a mixed fertilizer, get a 4-8-10, and apply about three hundred and thirty-five pounds to the garden.

You see in the above 314 pounds we have the plant-foods without the filler. Add the filler if you think the fertilizer will be more easily applied. Add all you like, but put it all on.

It is now time to lay off the rows according to the plan. Plow furrows with a small plow where the potatoes are to be planted. Then take the horses out of the garden for the season. If you have not already a good wheel-hoe, you will doubtless order one when you get the plan made.

In the onion section lay out the rows two feet apart, then a row in the center of those, then again a row between. That makes the rows nine inches apart.

Of course, before making the rows, level the ground nicely with an iron rake. There is no use of our talking of directions for planting the seeds. The very best of directions are on the packets; follow them. And the garden is started. W. H. SHAY.

A Paying Garden

MY GARDEN consists of one fifth of an acre. The land is covered every winter with ten or twelve inches of straw horse-manure, chicken litter and wood-ashes, then hand-spread early in February. Spading I find better than plowing, as horses trample the ground too much and the fence-rows are neglected, to the farmer's loss.

My crops are yearly rotated in a four-year plan in such a way that no same crop comes on the same spot for three seasons. In fertilizing, a few wrinkles are worth watching; ashes are a grand fertilizer for green peas while bad for beans, and chicken-manure makes rutabagas and turnips grow to leaves too much.

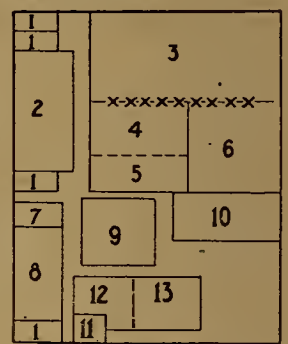
Last year's returns from my garden had a value of \$133; the cost was \$38.10, leaving net \$94.90.

The plan for my garden for the season of 1912 is illustrated by the accompanying chart. 1, brooder; 2, carrots; 3, potatoes; 4, rutabagas; 5, lettuce in frames; 6, mangels; 7, incubator cellar; 8, cabbage, peas, radishes, lettuce; 9, house; 10, parsnips; 11, beans; 12, old strawberries; 13, new strawberries. I have the currants and other bushes between the potatoes and the root crops. PAUL BOYSEN.

The Farm Oasis

IN ORDER to maintain and enjoy life, it is almost necessary that we maintain a garden. A garden is the oasis of the farm. If our farm were made to produce as our one-eighth acre of garden does and the same could be disposed of at the prevailing prices at maturity, a farmer would become rich in several years, and yet how many are so indifferent to that fenced-off piece of ground somewhere about the house. Seldom do most of us realize that practically every day of the year the table contains something from that selfsame patch.

Our garden is an oasis for production, having strong mellow soil which is of course (regardless of this fact) not supposed to maintain itself. It is generously supplied with manure yearly. We apply alternately hen-droppings and wood-ashes, thoroughly mixed; well-rotted hog-manure, and stable manure for the truck part of the garden. About three eighths of garden





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was laid out in six beds, as illustrated. These were put to onions, which were pulled early. One bed, No. 2, was planted to endive. Beds 5 and 8 were used for cabbage. Beds 4 and 7 were planted to tomatoes last year, from which about six bushels of nice tomatoes were sold or canned for home use. The miscellaneous bed, No. 3, contained some beans, early radishes, peas and carrots, and on the margin of the beds were grown a bushel of red beets for table use. One third of early-cabbage bed grew lettuce, as also the margin of one tomato-bed. The onion-bed supplies our early winter (November and December) lettuce or endive, which is put in one inch of ground in shallow boxes, as also the celery. Both of these were extra good last year. The latter generally lasts until February or March. The truck part of the garden was planted to three rows of early potatoes, G; two rows of beans, F; four rows of sweet corn, E; one row of early celery, D; one row of sweet potatoes, C, and also one row of beets or mangel-wurzels, B. The beets come handy for cows and hens. For the latter, I hang them up in scratching-shed, as also cabbage, about one foot from ground.

There are two grape-arbors, 9; some currants, berries and gooseberries, A; also a prolific stock of hops. Some sunflower-seed planted along south fence, 10, produced generously. There were also six thrifty stocks of rhubarb on the north end and five prolific peach-trees, 1.

There were also about two bushels of pickles grown in early potato-patch after potatoes were dug. J. E. RAISER.

Parsnips

THE home garden is not complete without one or two rows of parsnips for home use. This vegetable is always salable, too, and usually very profitable, as it returns large yields. So it will do no harm to put out a considerable patch.

Sow them in the spring with the other hardy vegetables. All the varieties are good, but for very shallow soils the short-rooted ones are preferable. Be sure to obtain perfectly fresh seed; never trust old parsnip-seed. Fresh seed will come up promptly, but old seed is not likely to come up at all. If you have a few parsnip-roots from last year's crop, set them in some odd spot in the garden and let them go to seed. Gather the seed when ripe, and next spring you will be sure of having fresh and reliable seed.

Parsnips can be used all winter long and until quite late the following spring. The bulk of the crop may be left in the ground where grown all winter and will come out in the spring in good shape. Freezing will not injure the roots in the least. A part of the crop should be dug, however, during open weather and stored in the cellar in order to have a supply of the roots on hand during the times when the ground is frozen solid and it is not possible to get any out of the garden.

Not everybody likes parsnips, because they have always been accustomed to having them served in a stew. There are, however, many tempting ways of serving this vegetable, some of which are sure to please the most fastidious person. W. F. PURDUE.

Why Not Grow Cucumbers?

THERE is, in the aggregate, a large quantity of cucumbers suitable for the manufacture of pickles which are each year lost to the trade because there is, at present, no satisfactory way of handling this material on a small scale. As a rule, the stock used by the pickle-factories is grown under contract and handled by themselves through their salting stations, which are more or less permanent features of a community. There is no reason, however, why all of the cucumbers suitable for this work which are not easily disposed of as fresh cucumbers should not be salted by the grower and this salt stock form an important feature of the commercial pickle industry.

The salting of such stock is a comparatively simple matter, although it requires close attention to a few important details. High-grade salt stock can only be made from fresh cucumbers which have been handled carefully and which have not been off the vines more than six or eight hours before being placed in the brine. Withered cucumbers or those which have been badly handled and severely bruised are of little or no value for salting. To make first-class salt stock, therefore, the cucumbers should be picked at frequent intervals and immediately placed in brine made by dissolving two pounds of salt for each gallon of water. The salt should all be dissolved before the cucumbers are placed in the brine, and the cucumbers should at all times be kept under the brine. As cucumbers are added to the vat there should be an addition of ten pounds of salt for each one hundred pounds of cucumbers placed in the brine as first made. This should be scattered over each layer of cucumbers as they are added. After the cask is full, calculate the number of pounds of cucumbers in the receptacle and add one pound of salt for each one hundred pounds of pickles, in addition to the quantities already mentioned. This additional amount of salt should be put on top of the

wooden cover which is provided to hold the cucumbers under the brine. Fresh water should be added until it stands four or six inches over the lid covering the cucumbers. Be careful not to wash the salt down, but to allow the water to come up and cover the salt. After three or four days, the heavy brine itself will have been reduced in strength and it will be necessary to add salt to restore it to its original condition. It is customary to add four pounds of salt for each one hundred pounds of cucumbers after four days, and five or six days later the application of salt just mentioned is again repeated. From this time on little additional salt will be necessary, but the brine should be lifted from the bottom of the cask and poured over the top. In large tanks this is accomplished by inserting a pump into a small well provided by placing a trough extending from the top of the tank to the bottom. If the cucumbers are in casks, the casks can be headed, and by turning them bottom end up every four or five days the same result will be accomplished.

To convert salted cucumbers into pickles, the practice usually followed is, in the case of cucumbers measuring four inches or more in length, to put the cucumbers in a processing kettle and cover them with fresh water which is allowed to stand twenty-four hours. This is then drained away and the cucumbers are again submerged in fresh water, to which is added two pounds of alum and two ounces of turmeric for each barrel of pickles. The processing tank is then heated up slowly to a temperature of one hundred and thirty degrees Fahrenheit and

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the cucumbers allowed to stand in this solution for twelve hours, after which they are separated into grades and placed in proper receptacles to retain the vinegar used in making the pickles. For this purpose high-grade pure vinegar should be used and to it there should be added a mixture of one and one-half pounds of the following spices for each barrel of cucumbers. The spices consist of a mixture in the proportion of:

- 5 pounds cloves.
- 5 pounds allspice.
- ½ pound celery-seed.
- ½ pound bay-leaves.
- 2½ pounds coriander-seed.
- 1½ pounds white pepper (crushed, not ground).
- 1 pound white mustard-seed.

After the spices have been added, the receptacle is sealed and the pickles are ready for the market.

Smaller pickles, such as are suitable for bottling and those up to four inches in length, require slightly different treatment than large ones. They require less soaking and a slightly lower temperature in processing. These smaller pickles as they are taken from the brine are placed in the processing-kettle and covered with fresh water and allowed to stand for ten or twelve hours, after which the water is drained off and the pickles again covered with fresh water, to which is added the same quantity of turmeric and alum; namely, two ounces of turmeric and two pounds of alum for each barrel of cucumbers. The processing-kettle is then heated up slowly to one hundred and twenty degrees Fahrenheit and the pickles are allowed to stand in this solution for twelve hours, after which the solution is drained off and the pickles sorted and graded and placed in suitable kegs, barrels or bottles, according to whether they are to be sold in bulk or retail. The receptacles are then filled with a high-grade vinegar; for bottle stock white vinegar is preferred, and the one and one-half pounds of spice is added except to the bottles. In the case of bottled pickles, the vinegar is spiced instead of the spice being added to the pickle stock.

In general, I believe it would be better to simply prepare the salt stock rather than to attempt to process the pickles or to prepare them for market. I believe it would be an easy matter to build up a commercial industry based on salt stock if the salting were carefully done according to directions above outlined. This salt stock would, I believe, soon attract the pickling trade and become a substantial source of revenue to the growers and an acceptable source of supply to the pickling industry. J. C. CORBETT.

How My Garden Grows
LAST spring I made up my mind that I would have the best garden in the neighborhood, and I believe it turned out that way. The piece that I had for my garden was a vacant lot 60x180 feet. It had been used as a garden for several years, but very little manure had been put on it, and the weeds were thicker than I ever saw them elsewhere. The first thing that I did was to engage the manure from one of the doctors in our little town, who kept two horses. This I paid \$6 for. Pretty high, but I must

from a neighbor, this and 125 pounds of commercial fertilizer was scattered over the garden after it was broken, and harrowed in. About the first of March I made my first hotbed. In this I planted tomatoes, pepper, eggplant, cabbages, cauliflower, celery, beets and onion-seed. My second hotbed was made about April 1. In this I bedded sweet potatoes for slips. I used the sashes that I used on the first hotbed, and covered the first hotbed with heavy sheeting (coarse muslin). I kept the sash on the potatoes until they were coming up nicely, and then made my third hotbed, this one for sweet potatoes. I changed the sash over to this bed and covered the second bed with heavy muslin. I placed my cold-frames in the center of the garden, so that in plowing the garden, breaking up the ground, I could backfurrow and get all around the cold-frame without losing any time. The cold-frame was made and the seeds planted before the garden was broken. In the cold-frame was planted celery and other main-crop seed for plants.

Planting commenced about May 1. By this time the plants in the hotbed were crowding and they were transplanted to another hotbed with less bottom heat. The hotbeds were 6x9, three of them, and one 6x16 feet. Out of these hotbeds and the cold-frame I had all the plants that I could use in my own garden, and sold \$81.55 worth to people in the neighborhood.

In the garden I grew three rows of tomatoes. Fruit sold for \$16.85; radishes, \$1.45; eggplant-fruit, \$2.85; sweet potatoes, \$4.15; string-beans, \$2.55; corn and squashes, \$2.25; beets, \$1; cucumbers, \$1.45; lima beans, \$2.95; watermelons, \$0.85; onions, \$0.40; mango peppers, \$3.20; cabbage, \$1.95; celery, \$15.25; turnips and mustard greens, \$0.75. I charged my own family with everything that was used at home at the same prices that I received for truck sold, and the total amount for plants and vegetables produced was \$159.65. Total expense—labor, manure, fertilizers, seeds, seed potatoes, team and my own time, counted two hours for 120 days, at ten cents per hour common labor—amounted to \$75.67, leaving a net profit of \$67.83 on less than one-fourth acre. Everything was counted. I kept a diary of the complete work. I took several premiums at our county fair, and sold one hubbard squash for \$1. Vegetables were scarce, and they sold at good prices throughout the season. I kept the ground busy from the time frost left it in May until its return in October. Examine the rows in the photograph, and learn my system of planting. On each side of transplanted onions I have a row of late-cabbage plants. At the right of the cabbage-row there is a row of beets and a row of turnips; between these is planted a row of Kentucky Wonder beans. As fast as one thing was off, there was something to take its place. The cold-frame was removed and this space planted to turnips, kale, celery, winter turnips, winter radishes, lettuce and early radishes; these last were better than they were early in the spring. The tomatoes on the trellis tells how to train them for profit. They were mulched with the manure from the hotbeds. Everything was done just as near the right time as it was possible to have it done. There was no irrigation whatever but that of con-

the foliage, although an expert can readily distinguish the two. An unmistakable difference is in the ripening of the fruit. Where yellows-infected trees ripen their fruit prematurely, little peach trees delay the ripening about ten days. The fruit may have good color, but is undersized, tasteless and flesh is apt to be stringy. Since a little peach tree will never again produce marketable fruit and is a constant source of further spread, it should promptly be pulled out and burned. In an infected district where one finds here and there through the orchard weak growing trees, with apparently no explanation, it certainly pays to destroy them as a safeguard for the rest of the orchard.

No cultural practice or artificial means seems to bring on either yellow or little peach. Girdling, winter injury, lack of cultivation and fertilization and other injuries may produce the same stunted yellow-green leaves, but there is no evidence to show that any of these produce either disease. However, it is worth while to start the orchard right and to care for it as a preventive measure. Plant only well-grown trees on a well-drained site. Constant watchfulness and prompt action will then control all trouble. A. J. ROGERS, JR.



Building-paper will protect the trees from mice and rabbits. This method was widely used this year

Growing Blackberries on Sod
THE growing of blackberries on sod has been and is being at present considered by many as an impractical method of growing the berries. Many claim that blackberries must be cultivated to insure good profitable crops. I will admit that where that is practicable it is all right, but with me, and perhaps with others, the system of cultivating cannot be constantly followed. On some of our lands it can hardly be followed at all. I refer especially to the hill lands of clay formation. Here in the hills of southern Illinois we must practice methods which will not rob us of our surface soil. Thus the growing of the berries on a sod comes in to our relief.

Up to five years ago I thought blackberries had to be cultivated. One day I saw a small patch that was in a good bluegrass sod. This led me to thinking. We must all admit that the natural home of the wild berry is not in a cultivated field. It is in the waste corners which are never plowed. I chanced to see a small patch of berries five years ago which had been set out and neglected. It had never had any form of cultivation whatever. The land was rich and had a good sod of grass. I happened to be there when the berries were ripe. Finer berries I never saw. I had some similar land and the thought came to me to use the same system.

I had two acres of this steep land planted to berries. You will laugh when I tell how the planting was done. I just took a post-hole digger and dug holes about a foot deep every four feet and the rows eight feet apart. I took the team and wagon, and hauled very rich dirt from the woods, and as the plants were set, a good shovelful of this rich dirt was placed in the hole around the roots of the plants. I set the whole stoll of the plant.

This work was done during the late fall and winter. The first year nothing was done to this land except to mow off the grass a few times. The clippings were left where they fell. The grass formed a heavy sod last summer and was very tempting, but I kept animals off.

Early the next spring the grass began to come and I turned in some small pigs. To say the least, they did fine. Did this ruin the berry-plants? No. Practically no harm came to the plants. Of course, the pigs were fed other feeds in connection with this grass. These particular shoats were not kept in the patch all summer; other smaller ones were put in later. I did not stock this land enough to skin it, but just enough to keep



This system of planting is profitable

have it. No manure, no good quality vegetables. Then I had to have some fresh stable manure to make my warm beds.

I used the fresh manure for the hotbeds, and scattered the remainder on the garden. I secured three barrels of poultry-droppings

stant cultivation of the surface soil. This kept a fine soil mulch. (I do not like the term, "A dust mulch.") I will have this same lot for my garden the present season. More manure will be applied, and about 300 pounds of fertilizer. J. W. GRIFFIN.

Little Peach
"LITTLE peach" belongs to the same class of disease that the yellows does. About fifteen years ago it was noticed for the first time in both New York and Michigan. The spread is said to be even more rapid than peach-yellows, and the trees attacked succumb quicker. It spreads mysteriously here and there through the orchard in much the same manner. The symptoms of little peach are quite similar to yellows as to the appearance of

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down the growth. This was the second summer, and when I say that I got a good half crop of as fine berries as one could wish, you may be surprised. However, such was the case.

I have as fine a patch under this treatment as I have on another field under the system of cultivation and with far less expense. The cultivated field has been manured every year, and it is not an easy matter on our hilly land to keep the land from running away. Much mulching has been done on the cultivated field, and I get good returns from it, but my experience so far has been greatly in favor of the sod system with pigs. I have never yet had a good chance to try the yarding of poultry in the blackberry-patch, as the berries have so far been a little too far away from the poultry-quarters. I see no reason why that is not practical, however. I know where it is being done in a small way by the small-yard methods, but I don't know of the colony system being used. That is what appeals most to me.

R. B. RUSHING.

Salsify

ALL who like oysters should devote a few rows in the garden this spring to the raising of some salsify, or the vegetable oyster, as this vegetable is sometimes called, from the fact that when served in the form of soup the taste closely resembles that of real oyster-soup. I like the vegetable article myself quite as well as the product of the sea, and many other people who have tasted it will say the same. Yet in spite of its good qualities salsify is found in few gardens.

This vegetable is not at all difficult to grow. It is hardy and easy of culture and will thrive wherever other garden crops can be grown. Get the seed in the ground fairly early, sowing it at the same time you sow beet-seed. The seed should be ordered from some reliable seedsman, so that you will be sure to obtain perfectly fresh seed. Old seed will not do any good. Sow in rows, thinning the plants to four or five inches. Cultivate as any other similar crop, being careful to keep all weeds down.

Salsify need not be dug in the fall and stored away as some of the other root crops, but may be left in the ground where grown, and dug as needed for use. Freezing does not injure its good qualities in the least; in fact, some claim that it is improved by freezing. At any rate, the roots will remain fresh and crisp all winter and until quite late in the spring.

W. F. PURDUE.

Over 150 students attended the State University of Wisconsin to study cheese and butter making to qualify themselves for paying positions.

Brown Creeper

I HAVE an ornithological friend that calls this the "mouse-bird," and so it is—in its habit. It resembles a mouse almost as much as a bird. It is so sly, always hiding behind the trees so that we catch but glimpses of it as it creeps, spirally, up the bole and never appears where we expect it to come forth, but is always higher up.

Its color, too, harmonizes so well with the brown bark of the trees that we would, perhaps, miss it entirely were it not for an occasional glimpse of its whitish underparts. It goes up the tree until the branches interfere too much with its movements, when it



will glide earthward and alight at the base of another tree and begin over. In its glide it so nearly resembles a falling leaf that the casual observer will likely not note the bird.

Its long, slender and slightly curved bill is well suited for gathering its food of small insects, eggs or larva from the crevices or under the bark scales, where the shorter billed birds, like the nuthatches and warblers, cannot reach. Its long, stiff and pointed tail-feathers are used as props after the woodpecker fashion. Its services to the farmer must be of inestimable value in destroying the destructive insects of the woodland.

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By T. GREINER

Newest Developments

FEW persons have had more than a vague idea of the real standing of the Empire State as a producer of fruits, especially apples. The consciousness of their own greatness has even lain dormant in the minds of the average New York State fruit-growers themselves. A few of the western counties of the State alone produce annually more apples than Washington and Oregon, with all their reputation as apple-producing States combined, and more peaches than Georgia, with a whole lot of other Southern States thrown in for good measure. And the Empire State has also more and cheaper land suitable for fruit production than all the New England States together, or more than half a dozen other States that might be named. The magnetic power of the supposed superior advantages of the West for apple-growing, which formerly attracted eastern fruit-growers, is about spent, and the return tide brings us the inquiries, on the part of people in the Western and Middle States, for fruit farms in the Empire State. This is to some extent due to some efforts made in the direction of advertising the real advantages of the State for fruit-growing, by means of big agricultural exhibitions and in other ways. It is in no small measure due to the well-considered efforts of Mr. Pearson, State commissioner of agriculture, who, an appointee of former Governor Hughes, was fortunately (for the State) retained in office by Governor Dix, and who seems to be in a fair way to exercise a similar influence on agricultural development in the Empire State that Mr. Coburn does in Kansas.

Foremost as potent influences in the great move for progress in this branch of farming, and towering high above all other similar organizations, stand the two fruit-growers' societies, each with a membership of 1,500 or 1,600: the New York State Fruit-Growers' Association and the Western New York Horticultural Society, both materially and effectively aided in their work by the two State stations, at Geneva and at Cornell University. The State fruit-growers' held their annual three-days' meeting during the first week in January, the western New York horticulturists during the last week of the same month, and both of these meetings are characterized by really wonderful exhibits of fruits, spraying devices and equipments, tools of orchard tillage, etc., and especially by the wealth of information and "new points" evolved during the addresses and discussions. The men who assemble at these gatherings for an exchange of experiences and to tell the results of their researches are the very cream of the fruit-growing fraternity and of the station workers. To

attend these meetings regularly is therefore about equal to taking a college course, or better.

Probably the most important and most useful new point of information that I gathered at the meeting of the New York State association was given me, in private conversation, by Professor Whetzel, plant pathologist of Cornell College of Agriculture. We have been told and have taught right along that in spraying trees with fungicides and insecticides we should spray with the wind, letting the wind carry the spray through the trees, then perhaps, after the wind has changed to the opposite direction, spray again so as to be sure of covering every part of every branch of the tree. Much, if not most, of the complaint of spraying having failed to kill the scale, for instance, is undoubtedly due to imperfect spraying. It has been found that in spraying lime-sulphur solutions with the wind we usually cover only about one third of the surface (circumference) of the limbs and twigs. Lime-sulphur solutions have no spreading qualities like oils. In order to do thorough and effective spraying, when using these solutions, we must, in the first place, have sprayers of considerable power, giving not less than eighty pounds pressure. The extension rod, or rods, should be fairly long, and the nozzles be turned at right angles to the rod. The operator can then stand off one side, out of and under the wind, and place the nozzle end of the rod a foot or two from the outer limbs, spraying with full force against the wind so that the mist is carried by the force of the spray pretty well through the tree, then taken up by the wind and carried back through the tree toward the nozzles, thus coating the entire circumference of the limbs and twigs with the solution or mixture. The operator, standing off one side, is no more liable to get soaked with the spray than if he were spraying from the other side with the wind. One spraying against the wind, therefore, will do the business, and perhaps even more thoroughly than two sprayings with the wind.

Our Spray Materials

That lime-sulphur solution, either in the commercial or the home-made concentrated form, applied thoroughly in winter strength (from 1 to 8, to 1 to 15), will kill the scale admits of no doubt. Professor Hedrick of the Geneva station boasts that it would be difficult to find a live scale in the station orchards, the trees having been sprayed regularly with this solution. Of course, the station has the best of power sprayers, and all the time and help that may be needed. The professional fruit-grower must have the best equipment, and the apple-grower of the East who wants to compete with the western grower in the production of good or fancy fruit, cannot get along without such equipment. But when we have only comparatively few trees, say an acre or two, we can hardly afford to keep and operate an expensive high-power sprayer. We do well enough if we have a good barrel pump to be operated from a one-horse wagon. It is quite possible that with such an equipment we cannot use the high pressure needed to carry the spray far against the wind. It may, therefore, be advisable for persons who have for this or similar reasons not been fully successful in getting rid of the scale, to use in place of the lime-sulphur solutions one of the miscible oils, like scalicide, all of which possess considerable spreading qualities. If a fairly good job of spraying is done, the material is apt to spread clear around the limb, and therefore to make an end to the scale infestation. I have repeatedly used clear crude petroleum. For the season now upon us I am going to use scalicide, and this mostly for its penetrating and spreading qualities.

I can more easily get rid of the scale, under my conditions, by using oils than the newer lime-sulphur.

The manufacturers of spraying-machines are a wide-awake lot. We may think one year that their sprayers have reached so near the standard of perfection that little is left to be done in the way of further improvement. When we examine the exhibits the next year, we find that new improvements, in the direction of simplification and greater effectiveness, have again been made. The machines now on the market, so far as I know, are all serviceable and reliable. The selection is mostly a matter of personal choice, or say individual notion and adaptation, of transportation, prices, etc. The large or professional orchardist wants a high-power sprayer. He whose fruit-growing is a small side-line, may have to be content to use an ordinary barrel-sprayer, and the nurseryman and vegetable gardener may want a knapsack or compressed-air or auto sprayer. There are also sprayers for special crops, as for grapes in big vineyards, for potatoes, drawn and operated by horsepower for big fields, or in barrow form, wheeled by hand or drawn by horse, for two or three acre patches, etc. For my own smaller operations in garden, potato-field, vineyard or newly set fruit-trees, I have for years mainly depended on a good knapsack sprayer, although I am well aware of the several imperfections of that device. From now on and until I find something still better, I shall use for these purposes one of the newer makes of compressed-air sprayers. We can now get those that are reliable and

convenient to operate. My advice, however, is to buy a good one and not take offense at the expense. It does not pay to part with good money for a cheap machine. It should be of copper or brass of course, for some of our spray mixtures and solutions are very corrosive, eating their way through iron very quickly. Nozzles have also been greatly improved and simplified. Get a good one. It should be able to throw a fine spray or mist, and yet not easily clog on the slightest provocation, and be easily cleared when clogging does occur. When through spraying with any spray mixture, always clean the sprayer by spraying with clear water, and enough of it to be sure that not even a trace of the mixture is left in sprayer, hose or nozzles. If you neglect this, you will surely have a heap of trouble when you attempt to use the sprayer the next time.

What and When to Spray

Spraying orchards is a somewhat complicated matter. We must know what we spray for. For scale (San José) we can spray with oils or with lime-sulphur solutions in full winter strength, of course, on the dormant wood. For sucking insects, such as plant-lice, pear-psylla, etc., spray with tobacco preparations, whale-oil soap solutions, kerosene emulsions, etc.; for biting insects, especially the codling-worm, use arsenate of lead, best in Bordeaux mixture, which is the proper spray on trees in leaf for fungous diseases. Orchard spraying, however, is a big and complicated business, almost a trade by itself, and cannot be treated fully in a single column of FARM AND FIRESIDE. It must be studied, in meetings, in lectures, in books and pamphlets, and further learned by practice in the orchard.

In the garden and potato-field, or in the vineyard, etc., we spray just as soon as, or before, the first signs of the insects or diseases are noted. Grapes may be sprayed before the buds open with strong lime-sulphur solutions, or perhaps better with strong clear solutions of copper or iron sulphate. I have used both, the last mentioned with good effect. The later sprayings are made with Bordeaux mixture, of the formula 4-4-50 or 4-5-50. Potatoes are sprayed with Bordeaux mixture and arsenate of lead, the latter at the rate of three pounds to fifty gallons of the mixture. This, if the arsenate is all right, will stop flea-beetles as well as potato-beetles before they have done any appreciable damage. Flea-beetles, if left undisturbed, are liable to open the way for blight and tip-burn. For celery in its earlier stages use clear Bordeaux mixture. For the yellow-striped cucumber-beetle I would now recommend keeping the vines covered for the first three or four weeks, or until well out of danger, with a weak Bordeaux mixture to which at least an ounce of arsenate of lead to the gallon of the mixture has been added. For the currant-worm spray with white hellebore in water, a tablespoonful to the bucket. Currants are especially liable to be attacked by San José scale. Spray in early spring with lime-sulphur in full or winter strength. Spray English gooseberries for mildew with liver or sulphur solution.

For rose-chaffer spray with arsenate of lead in water, half a pound to five gallons, or try zinc arsenate, which is three times as strong, using one ounce to the gallon.

Finally, in making Bordeaux mixture, or the home-made concentrated lime-sulphur solution, be sure to get the best and purest of lime, fresh stone lime, not the hydrated nor any cheap grade, and thoroughly strain the mixture before putting it in the sprayer. And always spray with any of the mixtures on dry wood or dry leaf, never during a rain, or on dew-wet surfaces.

Catalogues

At this season of the year it is a genuine pleasure to look through the seed, incubator and poultry catalogues. Many of them are expensively printed, and the illustrations are very artistic. It is also surprising how many helpful suggestions may be gathered by reading them carefully. Suppose you get ten cents' worth of postal cards and write to that number of firms advertising in this issue of FARM AND FIRESIDE. You will be surprised at the big return on so small an investment.

A Stahl Spray Outfit

Sent for \$3

Write for Stahl Sprayer Catalog and Treatise on "Orchard Enemies." Select any Stahl Barrel Sprayer. Send \$3 and we will ship outfit. Examine it. If O. K. pay balance. Try it 10 days—if not satisfactory, send it back and we will refund your money. All sprayers at bargain prices. Write today. (36)

Wm. Stahl Sprayer Co.
Box 878 Quincy, Ill.



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The FARMERS' LOBBY.

Two Conventions—A Comparison

By Judson C. Welliver

HERE'S something interesting that appeared in a newspaper of Friday evening, February 2d. The biggest set of headlines on the first page was devoted to President Taft's message, sent to Congress that day, concerning the cost of living, and proposing an international inquiry to be initiated by the United States. In order to bring out the thing that struck me as interesting, I shall quote the headlines on this article, and also those on another "story" that appeared in the adjoining column. The President's message was heralded thus:

INTERNATIONAL PROBE OF COST OF LIVING

President in Special Message Proposes World-Wide Investigation

Increase in Food Prices Extends to Other Nations.
Still Without Adequate Date Regardless
of Former Efforts to Reach Cause—Fed-
eral Commission Also Urged to In-
vestigate Industrial Relations.

There you have the substance of it; very fair synopsis of what the President had to say. It's an international subject; other countries are excited about it, as well as ourselves; cost of food is the particular thing that folks worry most about; various inquiries have been made, and none, here or abroad, state or federal, has resulted in an answer that satisfied anybody.

Now we'll turn to the adjoining column and note a much smaller heading that graces another article. It will be worth while to reproduce this entire item, head and all:

WHEAT ELEVATORS FULL

Grain Stored at Head of Lake. Navigation Taxes
Capacity of Great Storage Houses.
Canadian Grain Held for Shipment
of Enormous Volume.

Duluth, Minn., Feb. 2.—Present prospects are that there will be 60,000,000 bushels of grain in the Duluth and Superior and the Port Arthur and Fort William elevators at the opening of navigation next spring, counting the amount in vessel storage at the latter points. This is said to be unprecedented.

Winnipeg estimates that the volume of Canadian grain of the present crop that will be sent east via the American head of the lakes for next spring will range from 10,000,000 to 15,000,000 bushels. It would seem, Winnipeg says, that the wheat regions of western Canada are being developed more rapidly than are the facilities for storage and shipping. Elevator construction in Canada promises to be large during the year.

There's Something Wrong

WITHOUT doubt, there's something wrong. We don't need the word of the President for that. We are all agreed on it, and everybody else stands with us. They riot about it in some countries, they start revolutions about it in others; they have strikes and lockouts, conventions of economists and of politicians; Congress has investigated and so have some of the state legislatures. No use debating about the basis proposition; there's something out of joint.

Those two news items suggest a good deal. But on the same page of the same newspaper from which I have already quoted was a third news despatch which seems further to complicate the situation. Let me quote another headline and the item under it:

HOBOS ARE ORDERLY

Casual Workers Discuss Live Topics at Cin-
cinnati Convention

Cincinnati, Ohio, Feb. 2.—More delegates having arrived during the night, the attendance at the second day's session of the Unskilled and Migratory Casual Workers Association, or "hobo" convention, was larger than yesterday. The police are keeping a close watch on the meetings, but so far they have been very orderly.

Among the subjects on the program for discussion to-day were "New Avenues of Employment" and "Transportation to the Job." Joseph Fels, the single-tax advocate, was expected to talk on "Colonization."

To go back and summarize this remarkable exhibit from one page of one day's newspaper—but before doing that, let me say that all the quotations are from Page 1 of the Marshalltown, Iowa, *Times-Republican* of February 2d. That word of explanation and authentication seems only fair. To summarize, then, we have the President asking Congress to authorize this country

to lead in getting all the world together in an effort to find out why it costs them all so much to live. We find that the excessive cost of food is especially emphasized; people can't afford to eat three square meals per day at present prices and wages.

Next we note that there's so much wheat in our own and the Canadian Northwest that it can't be hauled away. The glut of it is declared to be "unprecedented." More wheat than the people up there can eat, sell, ship away or otherwise get rid of; more wheat than the railroads know what to do with; more wheat than there are cars or boats to move.

And really, the Duluth item did not tell anything like the whole story. Looking into the Canadian situation, I learn that millions of bushels are still either unthrashed or, being thrashed, are piled on the ground and covered with straw or other coverings.

The wheat-market has not been good this season. It is as plain as a pikestaff with a red streamer at the top that, if all that Canadian wheat could have been pushed along to the markets, the market would have been a good deal worse than it has been.

Too much wheat in Canada; not enough "eats" in other parts of the world. That seems easy: get more cars and more railroad mileage working in Canada to haul that wheat to the people who want it.

But wait a bit. Railroads are made mostly of iron and steel; and looking into that industry, I learn that it has not been enjoying particularly prosperous times the past year. Looking up a bit now, but the fact remains that there has been endless grumbling among the steel-producers, at the very time when Canada was developing its wheat-growing capacity so fast that it suddenly discovers it has utterly outgrown its railroad and storage facilities.

That doesn't seem reasonable. Ought to have been some arrangement to have the steel mills and the railroad contractors supplying rails and cars and locomotives to get that wheat moved.

Unfashionable Tramps

IT DOESN'T do to explain that there weren't men ready to build the railroads and make the rails and cars. The "hobo" convention at Cincinnati was, in its funny way, representative of some hundreds of thousands of men who want work and don't get it; at least, who ought to want work, and ought to be compelled to do it if they refuse to do it without compulsion. Somehow or other, the community supports them, whether with hand-outs, or in the workhouses, or the jails, or the poorhouses. The fact that they're alive is proof that they get fed, and if they don't produce, then they are a burden on the rest of the community to the extent that it must cost somebody to keep them.

The hobo convention was to discuss, among other things, "Transportation to the Job." Of course, they are talking about getting the poor devil from the place where nobody has a job for him to the place where there are jobs and nobody to do them. But this transportation problem seems to be a great deal bigger than this aspect. The steel mills have an immense producing capacity that has been idle for a long time. There is need for the rails that that idle capacity represents; but no means of transportation; that is, no means of getting the idle hoboes at work in the idle steel mills to make the needed rails for needed railroads, to move the stalled-up grain out of Canada to the people who are in need of it.

Don't start that old protestation that the hoboes don't want to work. Maybe not; but they're no worse than some other folks. Let me tell you about another hobo convention I witnessed a few days ago. It was also made up of people who don't work, but for different reasons. This one I saw actually in session; saw it gather, sit, adjourn and disperse. It was mightily different from the one in Cincinnati; but it was similar in the essential fact that the delegates in both were people without a job, whom the community supports because they either don't or won't support themselves.

My hobo convention was held in a big New York hotel. Waiting for a gentleman with whom I had an appointment, I stationed myself at the entrance by which he was to appear, and observed whatever came

along. Pretty soon the "'boes" began appearing. They were mighty attractive ones, too; female ones. They came in touring cars and taxis, and a few in old-fashioned horse-drawn vehicles with coachmen and footmen and all those flub-dub accompaniments. They came in silks and laces and velvets; in gorgeous hats and sweeping plumes; in very, very hobbled skirts, satin slippers and hosiery.

They came swathed in furs, decked in jewels, full of chatter and self-confidence. Presently the place was full of them; cafés, corridors, reception halls, parlors, and the like. They sat in groups, exchanged visits from table to table and settee to settee, drank tea and ate wafers, and a marvelous proportion took comfy little drinks of something that, if the 'boes had been men, and delegates to the Cincinnati convention, would not have been approved by the W. C. T. U.

That convention was in progress about two hours; and the truth is that these dainty hoboes were just as truly out of a job as those of the Cincinnati gathering. Maybe they didn't want one; it's as fair to raise that question in the one case as in the other.

Shall We Have Peace?

JUST consider those two hobo conventions, at the opposite poles of the social structure; and then consider that phenomenon of the idle steel mills, the unmoved and immovable Canadian wheat, the unbuild railroads, the people idle because they can't get transported to the job, and the others idle because, blessed their pretty eyes, they don't need jobs.

But what are we going to do about it? Land sake alive, I don't know! The world has got rich so fast that it hasn't had time to observe how very badly it was distributing the riches. Only just lately has it come to a sort of community-consciousness of the fact that it has done a frightfully bad job in this regard.

Let me take a glance at this problem from another angle. The other day the Democratic caucus of the national House decided to go slower about navy-building. They thought we might take a year without providing for the two new battleships that have come to be almost a regular, accepted program.

That brings up another condition. Everybody admits that navies and armies and wars and war preparation are wasteful, and that when human energies are devoted to their maintenance those same energies are not available for the construction of steel rails and railroads and boats to move that Canadian wheat. It would be a fine thing if all the world would agree to have no more navies and armies and wars, and all the money and energy thus absorbed were turned out to feed and clothe and transport and build.

But the fact is that when the Democrats voted to cut down the navy bill there went up a most terrific roar of protest. Let the United States drop out of the naval race? Never! We must hold up our end as long as other countries are scrambling for preëminence!

The Cost of Living is Still High

AND there you have it. Those two contrasting hobo conventions, the Canadian wheat that can't be shipped, the rail mills that can't be operated, the railroads that are not built—these, together with the navies and armies and the multifold wastes all around us, these are the things that really tell us about the high cost of living. Will an international or any other inquiry induce us to do anything about it?

We all know what's the matter, in a general way. We just naturally know it isn't true when we pretend that we think anybody who really works for what he gets very much more than he ought to have. We know, too, that the man who undertakes to blame the farmer for the high cost of things to eat, is lying. Almost anybody is more to blame than he is.

But—and here is the poor little point that seemed warrant writing this letter—the fact remains that an inquiry into the cost of living is altogether likely to give more attention to the farmer, the laborer, the producer, the labor union, than they deserve, and valuable to the various avenues of waste that modern civilization has opened up. The inquiry that the President has proposed will be a service to the whole world if properly done. But it can be improperly done, and it will be worthless if that proves the case.

A world investigation that would result in a far-reaching, a big, effective, understandable generalization of the whole difficulty, would be worth while.

The Road to Happiness

A Story of the Common Lot

By Adelaide Stedman

Author of "Poor Relations," "Miracle," "Intellectual Miss Clarendon," Etc.

MR. JOSEPH TAYLOR is the father of the heroine of the story. He has always lived beyond his means, and rather than endure the disgrace of a financial crash disappeared. He is finally discovered in a cheap boarding-house on the east side of New York.

MRS. JOSEPH TAYLOR, his wife, a society parasite, who is quite helpless without riches.

FRANCES TAYLOR, the heroine of the story, who is in love with Norman Norris, even after breaking her engagement to him. She is wooed by Jacob Jordan, who offers her financial aid in her troubles.

CAROLINE SANDFORD, a middle-aged, unmarried woman, who helps Frances in her financial straits by starting her as boarding-house mistress in a big house in a fashionable neighborhood, but in which business Frances fails.

NORMAN NORRIS, a country boy, who has succeeded as a lawyer in New York and who loves Frances, but who broke his engagement to her because of her seemingly frivolous nature. He has never ceased to love her, although his love, he thinks, is hopeless.

JACOB JORDAN, a member of a wealthy and aristocratic New York family, who is madly in love with Frances and who is just as willing to marry her after her misfortune as before her financial loss. He takes a malicious delight in her troubles, hoping thereby to strengthen his power over her.

MR. WEST, Mr. Norris' head clerk, a man of fine and gentle nature, who has fallen in love with Caroline because of her kindly disposition and her efforts to relieve distress.

Part VIII.—Chapter XVII.

WHEN Caroline arrived home, she was surprised to find a note from Mr. West awaiting her. He wrote:

MY DEAR MISS SANDFORD—
Our interrupted interview this morning prevented me from saying what I now write.

I beg you to believe that the acrostic which you saw was among those papers by pure chance, not by design. Bad as its poetry is, its sentiment is sincere.

Do not allow this knowledge to disturb you. Life has never taught me to expect any of its prizes, and I have never for a moment imagined that you, so beautiful, gracious and altogether charming, who must have refused many men, would ever respond to my love.

Perhaps you will know what I mean when I write that "my shell does not fit." It does not express me at all. My better self, my soul, has always been mute.

Therefore, I cannot, even now, write as I would, but pray believe that you will never have a more devoted and humble servant than
JAMES WEST.

Already tired and worn, this pathetic little plea robbed Caroline of the last remnant of her composure, and she cried more stormily than she had for years. The absolutely unconscious self-effacement of Mr. West's confession, its simple dignity, touched her deeply. He gave all and demanded nothing.

Caroline read the brief message over and over, as she slipped out of her damp suit and into a house gown of her favorite gray. Then she went to her desk, and after a long interval of sober thought, she wrote a few lines to Mr. West, and calling a messenger, sent them to Norman's office.

Three quarters of an hour later, as she stood at her library window pensively regarding the gray "out of doors" and watching a poor Italian woman, an encumbering child clinging to her skirts, picking up bits of wood discarded by the builders of a house which was being erected on the block, she saw Mr. West hurrying up the street. His precise little figure, with something meek and apologetic in its carriage, in spite of his almost headlong haste, forced the tears to her eyes, as she realized afresh the pathos of "the shell that did not fit!"

Then suddenly she saw Mr. West almost collide with the Italian woman, just as she lifted the pile of chips to her head, and, helpless to prevent the accident, saw the child fall splashing into a puddle left by the afternoon's rain.

Mr. West started violently, then in a moment he was picking up the crying baby and trying to soothe her as he wiped the mud from her heavy little dress.

Caroline watched him as he spoke hesitatingly to the mother, then looked longingly toward his destination. The child, toddling on again, evidently tired, and too young to walk far at all, fell with another cry. This ended the clerk's hesitation, and with only another longing look toward Miss Sandford's door, he turned resolutely, and picking up the child, walked off with the soft-eyed Italian woman toward the tenement district which stretches its length on the borders of the fashionable section of our largest American city.

Caroline left the window smiling tenderly, and patiently endured the added half-hour of waiting, glad to have caught another glimpse of the "soul that was mute."

At last Mr. West arrived, and his hostess' welcome lost nothing in cordiality from the fact that in spite of his profuse embarrassed apologies for his tardiness, he made no mention of the little incident which she had accidentally witnessed.

The situation was decidedly constrained, so as soon as they were seated in the cheerful library, Caroline began, "I suppose you are wondering why I sent for you, Mr. West?"

"I have not dared to wonder," he answered so anxiously that she flushed brightly, "but I know that you are always so considerate, so kind, that you would not have asked me to come if—"

"If I had not had something to say to you," she finished hastily.

"Yes," he nodded, his tense feeling of suspense poorly concealed.

Caroline sat silent for a moment, her reverie evidently both sad and sweet, the recollection of a past in which the flowers had all been watered by tears; then

"We were very happy over our secret, however, and everything went well until a young lady from out of the city came to visit at his home. As the young man of the family, he was naturally expected to see that the visitor had a pleasant time and in every way to make her stay as interesting as possible. I told him to do so—and he obeyed me—implicitly. The young guest was very bright, vivacious and fascinating, things I have never been (here Mr. West moved protestingly, but Caroline went right on), but I never suspected anything until one day—the papers announced their engagement!"

Her voice broke a little at the poignant memory of that hour, but she proceeded steadily, her gray eyes exquisitely misty and soft with the aftermath of passionate emotion.

"He came to me then with explanations, and in that interview I saw the first signs of his pitiable weakness. Perhaps I had a fortunate escape, for since he has proved himself a moral coward, but—" She hesitated again, her thoughts dwelling a minute on Mrs. Taylor, then she continued, "but perhaps he might have been saved if he had married a woman who loved him more than she did—herself: an unselfish woman loving him."

"But to go back—I could not stop caring, not even with wounded pride and anger to help me. For a year or two I struggled with myself bitterly." A tremulous sigh escaped her lips and she went white, and Mr. West, watching her, realized only too fully what the effort to uproot a strong love must have been to a nature like hers.

"There was no one to help me," she went on, "because no one knew, and I had—made—him—promise never to tell a living soul, and I believe he has kept his word to me—in that."

"For a year or so I struggled with myself, impotently; then I gave up the fight, convinced that I must always feel the same. I tried to forget my trouble in endeavoring to help other people bear their burdens. It was terribly hard at first, for I could not even go away, as my poor father's illness held me here. I had to go on moving in the same little circle, coming into constant contact with—him—and his family."

"I thought I couldn't bear it, but I did, and gradually it grew easier and easier, until at last I got my reward, for the old love died, swallowed up in a bigger, better love for all the world."

As she ended, the repressed anguish died out of her voice and was replaced by a soft wonder, while her face glowed with a luminous spiritual beauty, in which there was neither sadness nor regret.

Mr. West found no words to express his feelings, but his look of adoration and pity was eloquent enough.

There was an instant's silence, while Caroline came back to the present moment and took counsel of the man's face before her, then she added gently, "I have told you this that you might know why mere worldly success, fame or cleverness means so little to me, and why genuine unselfishness and moral courage mean so much more!"

He nodded, evidently not catching the meaning of her words at all, then said, brokenly, dwelling on the point which seemed to him the marvel of her story.

"To think that the man who won you gave you up!"

Then suddenly Caroline smiled with a touch of almost forgotten archness. "And the second man who might win me doesn't try!"

Mr. West stared at her a moment uncomprehendingly, then sprang up with a choking exclamation of joy, his almost wonderful smile positively transfiguring.

"Caroline," he cried, "you don't mean—"

"Yes, I do! We need each other! We can help each other!"

"I—help you!" The joy and pride in his voice was indescribable.

"Oh, James," she laughed hysterically, "I believe I'd marry you to teach you how to appreciate yourself, if for no other reason."

she said hesitantly, "You inferred in your note that you thought there had been other men in my life, and therefore you—" She paused awkwardly, and little Mr. West's solemn nod of acquiescence finished the sentence.

"Well you were right—in a way. There have not been many men, but years ago there was—one man!"

Again Mr. West nodded solemnly, his meek look most pronounced.

Caroline hesitated. She must be very careful. Half revelations are difficult to make, and she had resolved that no one should ever know that the man who had played so bitter a part in her life was Joseph Taylor. Irresistibly her mind conjured up a mental picture of the morning's scene; the weak, irresolute man, awaiting in fear and trembling the wife whose domination had ruined him and the daughter whose life he had all but wrecked, and with it vividly before her she began her story:

"When I was eighteen, I—fell in love with a young man just out of college—and he with me. We came to—an understanding, but, as he was just starting in business, I didn't want to announce our engagement until he was firmly established, as I knew the endless distractions that take an engaged man away from his work."



"'Caroline,' he cried, 'you don't mean—'"

Chapter XVIII.

GOING down in the taxi-cab, Frances read and re-read her father's letter, while her sore heart filled with bitter remorse. How wasteful and utterly worthless her life had been. No wonder Norman had ceased caring! How little she had ever deserved his regard! How miserably she had failed as a breadwinner! And worst of all, how terribly had she neglected her duties as a daughter!

Tears ran down her face, and she shrank into the darkest corner of the cab, weeping over her remorse-distorted picture of herself, entirely unconscious that this total abandonment of self-pity and this new clarity of vision indicated that the months of poverty had borne some sweet fruit for her. She made no resolutions, no promises, but passionately she longed to make some reparation, to prove to her father how earnestly she wanted to help him bear the burdens, of which painful experience had taught her the heaviness.

Mrs. Taylor broke the quiet from time to time, to ask some futile question, or to bemoan her nervous anxiety, and Frances wondered, though she did not dare put such a question, if her mother were also suffering the torture of remorse.

Her daughter's thoughts would have amazed no one more than Mrs. Taylor. She considered herself to be acting in the most Christian spirit when she so readily forgave the husband who, as she put it to herself, "had so cruelly evaded his responsibilities." She even congratulated herself on having helped him by engineering Frances, in spite of all difficulties, toward a most profitable marriage.

She longed to question the girl about Mr. Jordan, but conscious that Frances was thinking only of her father she hesitated until the moment before they arrived at their shabby destination, when she found courage to say,

"I'm rather surprised that—under the circumstances, you didn't ask—Jacob—to accompany us!"

With a throb of intense relief she realized that the taxi-cab had come to a halt while she was still seeking for an evasive answer. "Here we are," she exclaimed nervously, and Mrs. Taylor, excited herself at the sudden wave of hysterical emotion which began to overwhelm her, dropped the dangerous subject and with Frances hurried into the house.

The meeting was pathetic, happy, painful. There are no words to describe the embraces, kisses or inarticulate sounds of joy and sorrow which mean nothing, yet convey so much.

As yet there had been no explanations, no expressed contrition on either side, and each of the three waited in uneasy expectation for the precipitating word; and at last it came when Mr. Taylor caught up one of his daughter's small, ringless hands and, looking at it, murmured brokenly, "So you're not married to Norman, Frances? My God, how I hoped you would be!"

"Oh, no," the girl exclaimed, suddenly tear-blinded and her voice choking at sight of the white agony of her father's face. "Things are better so! I—don't think he really cared—after all!"

Mr. Taylor's grasp on the small, quivering hand tightened convulsively with a torturing fear. He seemed to see Caroline sitting beside him, as she had that morning, middle-aged, still unmarried, because of him! Was it possible that his retribution would fall on his daughter? Because of him had Norman deserted Frances, even as, for no cause at all, Caroline had been deserted?

"It doesn't do to put a man to too great a test! You would have healed your little breach if it hadn't been for me!"

"Whatever you did, I helped drive you to it!" Frances sobbed, the flood of her remorse rushing over her afresh. "Don't think of me! It's my turn to think of you a little! I went ahead spending with never a serious thought as to where the money came from, and I was just as ready to rush into marriage with never a thought beyond my wedding day! Oh, I've deserved everything that has happened—and beside—he doesn't care—so you see—everything happened for the best after all!" The words poured forth vehemently, while in her face shone a depth of feeling which gave her a new beauty as unlike the sparkling surface charm of the old Frances as the sound of an organ is to the merry jingle of bells.

Mrs. Taylor was too amazed for utterance. No mother duck who discovered in her supposed offspring a stately swan, could have been more astounded than she was to hear her daughter speaking in this serious, uplifted vein. Never passing through any depths herself, she failed to understand the experience.

Mr. Taylor, however, had endured the "cleansing" fire, and while he had by no means been found all gold, what good metal there was in him had been refined and purified. At last he knew himself, and this self-knowledge spoke, as he whispered huskily, "Don't talk so! If you were heedless and untaught, whose fault was it? Mine! I should have insisted

that your mother rear you—very differently! I am to blame for that."

At that, Mrs. Taylor broke in.

"Well, we have had our lesson in the last few months," she sighed with elaborate resignation. "Whatever mistakes we have made, we have suffered for them sufficiently!" And forthwith she began a harrowing description of the boarding-house life, in which she and her daughter were the heroines; ending with a eulogy on Mr. Jordan's kindness, hoping that Frances would supply the fitting climax by announcing her engagement.

The girl understood her mother's maneuver and became so white that her father broke in dejectedly, his voice acute with suffering.

"Frances' face is a good illustration for your story, Laura. You needn't tell me any more. I can't stand it!" His figure seemed to shrink into itself at the thought of renewing his struggle. His wife's benignant manner terrified him. What did she expect? Did she think his mere home-coming changed the financial situation?

"You know we will—be just as—pressed for funds now!" he faltered desperately. "It will take me years to get on my feet!" Again he glanced at Frances' rigid face and, misinterpreting its expression, ended despairingly: "I hate to think of it!"

Suddenly Mrs. Taylor decided to cut the Gordian knot of her anxiety by a bold stroke. "You had better let me finish," she cut in airily, "for I have kept our one bit of good news for the last. At least one of us will be prosperous, Joseph, for Frances is to marry Jacob Jordan."

A great sheet of flame seemed to envelop the girl for a moment as she felt the burning color mount to her forehead! She tried to speak, but could not as, fascinated, she watched the great wave of relief sweep over her father's face.

To Frances it seemed an eternity that she stood beside her father's bed, spell-bound. Dimly she heard her mother laugh. "No wonder she's embarrassed after all this talk about Norman!" Then after another interval she saw her father's arms reach out, and then she was pressed close to him, terribly conscious of his deep, sobbing breaths of tense emotion as he whispered, "Why didn't you tell me! You don't know what this means to me! You don't know!"

Mrs. Taylor wiped her eyes with a happy flourish.

"Who would have expected such disinterested kindness from Jacob Jordan! But then that's always the way!"

Frances felt stunned. This fresh blow was so unexpected, so cruel! Her heart cried out to Norman. Why had he never come to her? Why was she left to be placed in this terrible position? What could she do? She must tell the truth, but how? The happy pressure of her father's arms was agony. She must tear herself away and end his brief joy. She could not, she would not, marry Jacob Jordan!

Sobbing tempestuously, she lifted her head, only to hear Mr. Taylor saying soothingly, "You musn't break down now, after giving me such a wonderful new lease on life!" His voice throbbed with joy. "I don't think I could have stood the struggle long if it hadn't been for this! Tell me, when did it all happen?"

Frances felt her courage ebbing with every word. "It hasn't happened yet," she faltered faintly.

Mrs. Taylor heard the danger-signal in her daughter's broken voice.

"Only because the news of your home-coming, Joseph, prevented it!" She looked at her daughter commandingly and went on; "How beautiful it is that by marrying him you make not only yourself but everybody else so happy!"

"Yes," Mr. Taylor nodded.

"Oh, I want to make you happy," the girl cried. Suddenly she saw in this marriage her reparation to her father; the means by which she could insure him and her mother against lifelong penury. She could not be happy; then why not sacrifice herself for the good of others! Mr. Jordan knew the truth and he still wanted to marry her. There could be no wrong in her act, if it was done with an unselfish motive! Moment by moment the conviction grew that this marriage was her duty. What if every instinct did cry out against it? What if every heart-beat pounded out Norman's name? Was right doing ever easy? Distracted, overwrought, these thoughts flashed through her brain in a conglomerate mass in the few seconds that she stood facing her father; and after all his joy, his intense relief, was the conclusive argument!

For one emotional instant she felt some of the joy of complete self-sacrifice; and during its spell she voiced her surrender, even as Norman was explaining the delights of a wonderful matinee to little Archie, in an attempt to express a little of his joy at the thought of so soon reclaiming Frances as his own.

[TO BE CONTINUED]

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Suppose you men and boys who are hesitating about trying a pair of STEEL SHOES, let **your own feet** cast the deciding vote. You can't fool your feet—they know whether shoes are right or wrong. And how they do suffer when forced into ill-fitting, wrinkled, misshapen shoes! How they ache and pain and get stiff and sore when such shoes become water-soaked!

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Order Before March 15th Farm and Fireside, Springfield, Ohio

A First Lesson in Irish Crochet

By Evaline Holbrook



How to start a ring



Ring and stem



Another method of covering



A finished ring

Editor's Note—Many crochet enthusiasts are asking FARM AND FIRESIDE for new patterns and ideas for this most fascinating work. The present rage for Irish crochet makes it possible for any woman to make for herself many articles of real lace. The only hindrance lies in the fact that some of the stitches are so very different from ordinary crocheted lace that the experienced needlewoman frequently was puzzled by their seeming intricacy.

In the present series of articles—for there are to be succeeding lessons—Miss Holbrook endeavors to make plain all the difficult stitches.



The chain stitch



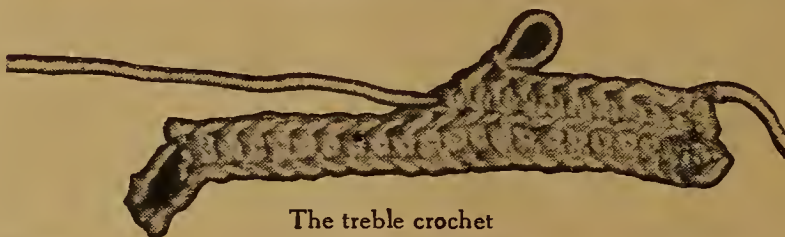
The simple crochet



The double crochet



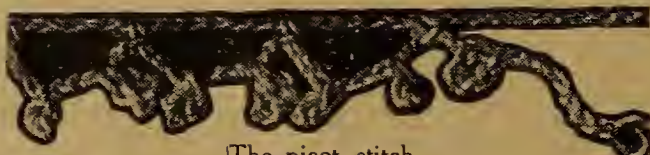
The short double crochet



The treble crochet



The slip stitch



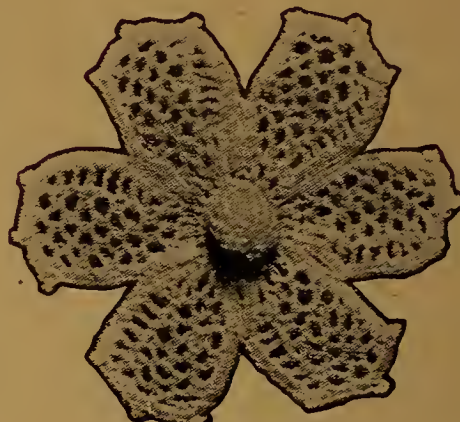
The picot stitch



Another picot stitch



Daisy with small petals



Daisy with larger petals

To obtain full directions for making these Irish crochet stitches, here shown, as well as directions for crocheting the two flower motifs, send six cents in stamps and a stamped and self-addressed envelope to Evaline Holbrook, care FARM AND FIRESIDE, Springfield, Ohio.

Miss Holbrook will be pleased to answer any inquiries from our readers in regard to Irish crochet. For an immediate reply, enclose a stamped and self-addressed envelope with each request. It is Miss Holbrook's desire to make her work helpful and practical, and all inquiries will be answered promptly.

"COME here, Louise, and let me show you the lovely gold locket and chain that Jean West has just sent me," said Juliet, and she dangled the chain enticingly before her friend's admiring eyes.

"Oh, how lovely, Julie! It's just the prettiest thing I ever saw! But do tell me—who is Jean West?" And Louise comfortably settled herself in a corner of the window-seat.

"Why, goodness me, Louise, haven't I ever told you about The Gift Club and about Jean West, its secretary? I thought that I had told every one of my friends about the Club. I do believe that I'm one of its most enthusiastic members. And I've cause enough to be enthusiastic! Nearly every week I receive some beautiful gift from the Club. Come up to my room and I'll show you some of the things."

Juliet lead the way up the stairs to her own particular little nest in the big, old-fashioned farmhouse, and the two girls settled down for a cozy chat.

"First of all, let me tell you how I came to join The Gift Club. We take FARM AND FIRESIDE, you know—father has been taking it for years. Well, one day I sat down after I'd finished the dishes and glanced through a copy of FARM AND FIRESIDE that had just come. The very first thing that I opened to was a page telling all about The Gift Club and the wonderful presents that other girls were receiving through the Club. I read the article from beginning to end, and when I had reached the end, I knew no more than I did at the start about the real work of the Club and what the members have to do to get all these beautiful things! But it all sounded so mysterious and so fascinating that I decided to write to Miss West and find out for myself just what her wonderful secret was. Her article was just as tantalizing as it could be—you couldn't find out a thing by it. So I wrote to the Secretary of the Club and in a few days her answer came. The whole plan was just as jolly and nice as

it could be. I don't suppose I ought to tell the secret, but then I don't really believe Miss West would mind. She'd tell you herself if you wrote her. So listen if you don't want to miss it."

And then Juliet told her friend Louise all about The Gift Club and its plan for helping the girls and women on the farm to get all sorts of beautiful and useful presents for themselves and their homes.

"Really, Juliet, it does not seem possible that anyone could have thought up such a splendid idea as that! And do you really mean that Jean West did it all herself," exclaimed Louise in an almost awe-struck tone.

"Why, of course, you goosie! Miss West claims that nothing is impossible, and that if it's possible for her to offer us these splendid gifts, it's just as possible for us to earn them. And you see for yourself that it's not at all difficult to do the Club's work. Why, it's the easiest thing I know. Now come over here and let me show you this toilet-set that I earned in the Club. It's ever so pretty."

"Well, I should say it is! And that was a present to you? You didn't have to pay a penny for it? It does seem so wonderful to me. I've always longed for a silver comb, brush and mirror for my dresser, and now here's a chance to get a set! I'm going to start out right away. Now do go on and show me more of your gifts," said Louise, enthusiastically.

THE GIFT CLUB

Jean West



Secretary

"Do you see that picture on the wall over there? That is one of the first presents that I received from The Gift Club. And this little gilt clock came from the same place. So did my bureau-scarf and this lace jabot. And oh—I nearly forgot! Do you remember my old last year's suit? Well, you'll hardly know it now that I have it all fixed up with an Irish lace coat-set. See here! It's real Irish, too!" And Juliet held up the navy-blue serge coat made gay with a dainty little collar-and-cuff set.

"And that stationery you use with the strange monogram, is that from The Gift Club, too?" asked Louise.

"To be sure it is. We girls do such a lot of writing back and forth that Miss West thought it a good plan to provide note-paper for us. Here's a box that is just half gone. See what a fine quality of paper it is. I do like nice stationery, don't you? And that blue monogram is so attractive. Miss West sends me a box every month, and that just about keeps me supplied. It's a pleasure to write letters, Louise, when you have stationery like that," Juliet replied.

"And then it means so much to be in touch with a girl like Miss West," Juliet continued, "who gives her whole time and attention to the Club."

"Juliet, do you suppose I could get a bracelet from The Gift Club? I do want one so badly," said Louise.

"Indeed, yes! Mary Watson—you know her—has the most beautiful bracelet that Jean West sent her last week. You see, the best part of The Gift Club is that you can get anything you want from it. All you have to do is to write and tell Miss West that you want a certain thing, and she will find a way for you to get it. It's almost like a mail-order business, but it's better still, for Miss West goes to all the big cities buying gifts for us Club girls. And just think! We don't have to pay a penny for them! It certainly is a wonderful plan," said Juliet with glowing cheeks and sparkling eyes.

"And it's so simple, Julie! That's the part that amazes me. It's almost like 'something for nothing,' isn't it? I do wish that I had known about it sooner! Think of all the lovely things I've missed," sighed Louise.

"Well, it's not too late now, Louise, for you to get them. Miss West is always eager to welcome new members into The Gift Club, and she takes the greatest delight in telling them how they can earn all sorts of beautiful presents. Why, Louise, if it hadn't been for The Gift Club, my Christmas presents would have been a sorry lot. But I earned almost every single thing in the Club and everybody was delighted—myself most of all!" said Juliet.

"What about dues? My weekly allowance is so small that you can't see it, and so you can see for yourself that I can't afford dues," said Louise.

"But, my dear, there are no dues! Miss West does not want you to spend money in the Club. It's all gain to you, don't you understand?" asked Juliet. Then she went on, "I think the best plan would be for you to write her yourself, and tell her that you want to know everything about the Club. Write to

JEAN WEST
Secretary, Gift Club,
FARM AND FIRESIDE,
Springfield, Ohio.

The Home Interests' Club

The Present-Day Problem of Married Women and Money

By Margaret E. Sangster

IN A brilliant day in early spring there was a full attendance at the Club, the theme for discussion being one of real interest to every member. Money is at the basis of comfortable and honorable living. It ought never to be a bone of contention in a well-ordered home. Neither irritation nor friction ought to arise between wives and husbands on its account. Unfortunately, married women are often ill at ease, and married men troubled and tried on the question of the pocketbook. This happens as often where there is abundance as where the supply is meager. The wife of the capitalist is sometimes less contented than the wife of the man who brings home his weekly earnings. Because of discontent, women who are already overburdened are anxious to become breadwinners, and cast about for ways in which they may earn money at home. Sometimes the wife takes upon herself an outside wage-earning position to the doubtful good of the home. The question bristles with difficulties, is as changeable as a kaleidoscope and has various aspects.

Naturally everyone was on the qui vive when the Club settled down to one of its most fruitful and exciting sessions. Eagerness was visible on the face of every woman, as though a great problem was to be attacked.

"A man's wife," said Mrs. Madison, glancing over the Club after roll-call, "is in reality his business partner. She is responsible for the comfort of his home and hers. In the earliest years of marriage she brings up the children, not exclusively, because their father controls and assists, yet to an extent far in excess of anything that he can do. The mother is with her little ones all day long in the time when they are shaped for life.

"In America, as we women know, a mother combines in herself a great number of characters. She is home-maker, housekeeper, teacher, nurse, cook, seamstress, church worker, assistant in charity and village economies, and I know not what else. She is her husband's confidante and the sharer of his fortunes. By this I mean that her right to the management and handling of the money that supports a home is vested in common sense and justice, and ought not to be ignored. A woman should not have to ask her husband for money, nor be expected to give an account of what she does with it."

A Wife's Experience

As Mrs. Madison concluded, three women were on their feet. Priority in speaking was given to the oldest of the trio. She was a woman with a sweet but tired face, a woman plainly dressed, her costume two or three years behind the prevailing style, although of good material and in perfect taste. This lady was the wife of a wealthy farmer, honored for his integrity and influential in the county and state. He was, however, known to be what is called "near," a man who counted every penny. His wife and he had lived together for more than thirty years, and the friends of both had noticed that since the children had grown up and the daughters had begun to take part in the home management, money had been spent more freely in the household than at a previous time, while Mrs. Parsons herself had seemed more at ease and a trifle more independent. Evidently the girls had discovered a secret in influencing their father that their mother had never found out.

"I think," she began, "that there is something fundamentally wrong in the way most women are treated in reference to money. Most married women, I ought to say—for somehow girls can get what they want from their fathers—do not always easily get what they want from their husbands. A man thinks of his wife as a part of himself and forgets that she has an individual claim. In his eyes she is all right when she is out of the fashion and very shabby. He does not like her to have an allowance, because theoretically his money is hers, while practically she has very little to do with its disposal.

"In my girlhood I was a teacher. I had my salary and was able to put something by each year for a rainy day. During the first two years of my married life I exhausted my little income in the savings bank rather than ask Edward to give me money to add to my wardrobe, rather, indeed, than to ask for money to provide for the wants of the first baby. There came a day when I needed shoes and gloves and a gown; when my ample provision of household linen had to be replenished; when I had not a dollar to pay my subscription to the Missionary Society. I was compelled to become a mendicant, and this is what I have been, though Edward does not suspect it, during my entire married life. I should be ashamed of the confession if I did not know that I am by no means solitary. There are others here who have had to depend for pin-money on their income from butter and eggs and such perquisites as the farm could afford, and there are women who have taken boarders in summer only because they did not wish to have doled to them that which should have been their right."

The Division of a Salary

The minister's wife then contributed her mite to the theme. "The affairs of the minister," she said, "are in a way the affairs of the parish. You all know the exact amount of our salary. Please notice the possessive pronoun. I say *our* salary on purpose, for though the minister preaches and makes pastoral calls, and does fully all that a man may in the service of the congregation, I, as his wife, am his continual helper and adviser. When we started out together, we mutually arranged the financial side of the situation. I sometimes think there is great comfort and ease of mind in having a fixed income. It may be a small income, but if it is something paid every month or every quarter, the wife knows exactly how much her husband has, and together he and she can apportion amounts and plan for what must be done. We have the manse as our home, and this, of course, saves us all anxiety about a shelter. Once in a while it does happen that repairs are needed, and we have a little struggle with the deacons to get them made. I cannot imagine why a board of deacons should ever be reluctant to repair the house that belongs to the church. Now let me tell you how we manage. We divide the salary into ten parts. One part goes into the Lord's treasury. Each of the other nine parts is devoted to a certain use, and each of us has an equal share in the division, neither asking the other questions nor making explanations. We keep books and go over our accounts, but in every sense of the word we are business partners, and although the salary is not paid to me, and I am not the servant of the church as my husband is, I make it possible for him to earn it, and we both feel that we have neither mine nor thine, but that the income is ours, and that both have rights in it and to it."

"Your plan is ideal," said Mrs. Elderbury. "I only wish it might be adopted everywhere. More heart-burnings, jarrings and discord can be laid at the door of domestic mismanagement of money than at any other. A girl I knew in my youth was married after a short acquaintance to a scholarly professional man. He had been brought up under hard conditions in a strenuous school of poverty. She was the daughter of wealth and had never been denied a reasonable wish. Her husband was what is called a good provider. He bought amply for the table, and was not averse to having plenty of fuel and sufficient house-furnishings to keep his home comfortable and dignified. He simply declined to let Betty buy so much as five cents' worth of anything. He did not wish her to have accounts at shops, nor did she desire them. When she wanted to buy anything for herself or the children, he accompanied her, superintended her purchases, examined every pair of stockings and every yard of muslin, and frowned upon ruching and trimmings as needless, drawing out his well-filled pocketbook and paying the bill with a flourish when the shopping had been done to his satisfaction. She never had any money in her possession except when her mother sent it to her as a gift, and when this was done, she took excellent care to keep Reuben in ignorance. Once the good man, for in some ways he was good, was compelled to leave home for a few days. He carefully counted the amount that his wife would spend for the house during his absence. Then he lost his train and had to wait over another day. Coming home, he asked her for the cash and put it back in his own pocket for the next twenty-four hours."

A Woman's Career

"I can match that story," said Mrs. Olcott, "and I do not need to go into the recesses of memory. There is a beautiful little woman living in a town near here. A few years ago she was as exquisite a flower of girlhood as I have ever seen. She had considerable dramatic ability, and although it would have been opposed to all her traditions to go on the stage, she hewed out a path for herself. She gave readings from distinguished authors in churches and before clubs. She entertained children at their parties by delightful story-telling, and as she played the mandolin charmingly, she sometimes assisted her friends at afternoon teas. In one way and another she earned a generous income and devoted it as she chose, partly to charity as well as to self-support. When she married, she hoped to go on with the work that she loved, but her husband positively prohibited her reading in public or entertaining her friends with music, declaring that he could support his wife and meant to do it, and that, anyway, he did not propose to permit his wife to earn money, he being of the opinion that a wife's place was in her home and not in appearing at popular functions. He was the type of loving husband who determines to keep his wife entirely to himself, and frowns upon her retaining friends of her own sex, if they interfere in the least with her absorption in him. Mabel might have been very unhappy over this if the babies had not come soon and often. She has been married fourteen years and has seven children. Her husband is rising in his profession and is rapidly becoming one of the wealthiest men of this section, but the cross that Mabel carries hidden is a cross of slavery. She cannot so much as buy a book, go on a little trip without begging for car-fare, and as for shoes and stockings, ribbons and hair-pins and whatever else is needed in the daily routine, she is forced to consult her lord, and very often has to go without trifles that she absolutely requires. Her husband has before now sent home a new piano that cost seven hundred dollars, when Mabel was in want of something that would not have cost seven."

Mothers Train Men

A motherly lady in the back of the room stepped forward and asked to be heard. "The blame does not lie entirely upon the men," she said. "For ages women have been treated like grown-up children; men have worked hard and struggled bravely to keep the wolf from the door, and there has gradually come to be an unwritten feeling or law that the money belongs to the one who earns it, and that the woman who spends it is wasteful and improvident. The bringing up of men is the responsibility of mothers, and women should see to it not only that they have fair play themselves, but that the boys whom they control from the earliest times, from babyhood and the nursery, have the right ideas about money, about thrift and about rights in the home. All this the mother should see to. It is my conviction that before marriage there should be a complete understanding between affianced lovers as to what they will do with their joint income."

"If young people are really in love," said the hostess of the day, "they will practise self-denial before marriage and have a nest-egg in the bank as a barrier against want. The planning and saving before marriage is as much a pleasure of courtship with sensible young folks as their social distractions."

The last word of the day was spoken by a spinster. Miss Livermore, a gentlewoman of fifty, tarrying for a while in the neighborhood, had been invited as the Club's guest. She declared herself an investigator, and said that not being married she was able to look dispassionately on the situation of her friends who had husbands. Asked to contribute the last word of the afternoon, she said with emphasis, "There is no final word. You will probably take this subject up again next month, and you will bring to bear upon it sober thoughts that will come to you during the next thirty days. If ever I marry, you may be certain that I shall take care not to let my ship of happiness drift upon the rocks and reefs of which some of you have spoken. A man trusts his wife with everything that is most precious to him. She is the custodian of his happiness, bears his name, gives him such dignity as a bachelor cannot claim, is the presiding genius of his home and, to tell the truth, means to do the right thing for him and with him every day. I like men, and I think I understand them. Many men have not an idea that women are disturbed and distressed over what looks to them like a bagatelle. What they need is vision. It is the place of woman to lead them to higher levels, on this as on other questions."

Before the Club separated it was announced that at the next meeting the subject would be continued with special reference to the wife as a wage-earner.

Correspondence is invited, and letters accompanied by a stamped and self-addressed envelope will be held in the strictest confidence and receive a personal reply from Mrs. Sangster.



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Patterns for Spring Sewing

Designs by Grace Margaret Gould



No. 1986—Waist with Large Armholes
Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Quantity of material required for medium size, or 36-inch bust, four and one-eighth yards of twenty-four-inch material, or two and one-half yards of thirty-six-inch material



No. 1964—Girl's Dress: Cut in One Piece
Pattern cut for 2, 4, 6, 8 and 10 year sizes. Quantity of material required for medium size, or 6 years, four and one-fourth yards of twenty-two-inch material, or two yards of thirty-six-inch material, with one-half yard of contrasting material for trimming



No. 1863—Collarless Waist with Basque
Cut for 32, 34, 36, 38 and 40 inch bust measures. Material for 36-inch bust, one and three-fourths yards of thirty-six-inch material, with seven-eighths yard of contrasting material for the trimming

No. 1864—Two-Piece Skirt with Yoke
Cut for 22, 24, 26, 28 and 30 inch waist measures. Quantity of material required for 26-inch waist, four and one-half yards of thirty-six-inch material

TO OWN a good skirt-pattern which you know is absolutely reliable, is the greatest sort of a help to the woman who makes her own clothes. And if it happens that you can use this pattern in making more skirts than one, you are surely a fortunate woman. It is just such a pattern as this that you will find No. 1954, Four-Gored Skirt in Two Styles. It is cut in eight sizes, 22, 24, 26, 28, 30, 32, 34 and 36 inch waist measures. The skirt with a normal waist-line should be very becoming to figures of 32, 34 and 36 inch waist, while both styles will look well on smaller figures.

The pattern-envelope contains five pieces, which are lettered as follows: The front gore E, the side gore M, the back gore H, the tunic T, and the belt A. These letters are perforated through the different pieces of the pattern to identify them.

Smooth wrinkles from different parts of pattern before placing them on material. In cutting, place edges of front gore and back gore marked by triple crosses (XXX) on a lengthwise fold of material. Place side gores, tunic, and belt with line of three large round perforations in each lengthwise of the goods.

For skirt with tunic, the belt is omitted, and the lower edges of all gores should be cut off at lines of small round perforations. This gives a skirt 42 inches in length from waist-line to lower edge.

When the tailor-made skirt is desired, the lower parts of the gores are cut full length of pattern, but the extensions above waist-line are cut off at lines of small round perforations. This gives a normal waist-line, and, of course, the belt is required in this skirt.

To make the skirt with tunic, turn in upper edges of tunic three eighths of an inch, and arrange on side gores, bringing upper edge of tunic to line of large round perforations. Stitch to position. Baste sides of tunic to sides of gores.

Form plaits in back gore by bringing corresponding lines of triangle perfora-



No. 1963—Boy's Suit
Fastened at Side
Pattern cut for 2, 4 and 6 year sizes

tions together. Baste on these lines the full length of plaits, and press well. Leave bastings in, because you may have to stitch the plaits part-way down, to hold them in place. There is a three eighths of an inch seam on each side of the back gore after the plaits have been basted.

Now join gores by corresponding notches. Pin first at notches, then match upper and lower edges, and pin at these points. Before basting, pin all along seams, matching edges carefully, and baste just three eighths of an inch in from edges. Pin only one seam at a time, and baste that seam before pinning another. Take up darts at sides by bringing corresponding lines of small round perforations together.

Leave an opening at left side of back gore as far as single notch, and fasten skirt invisibly, beneath plait. Finish lower edge of skirt with a facing. If the skirt is to be worn separately, finish upper inside edge with a straight strip of silk about one-half inch wide.

To make the tailor-made skirt, join the seams, and form back plaits as directed for skirt with tunic. Stitch back plaits half-way down, and be sure that the stitching is on line of basting.

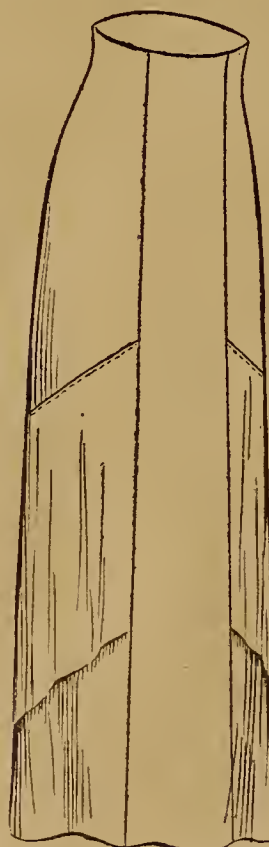
Turn a three-inch hem at lower edge of skirt, by lines of large round perforations. (Do not confuse these lines with the lines of small perforations used when cutting the other skirt.) Baste as near edge of skirt as possible.

Turn in upper edge of hem three eighths of an inch.

Place skirt flat on table, and pin up hem. Pin up about half a yard at a time, and baste that half-yard before pinning any more. Small darts will form at irregular intervals. These should be basted flat and pressed well.

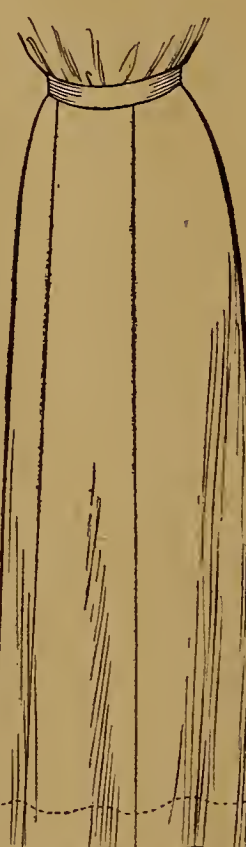
Join belt to top of skirt. Large round perforations in belt indicate center front, small ones center back. Pin at these points, then bring right end of belt to edge of plait on back gore, the left end of belt to back edge of left side gore.

Sew hooks on back gore. Face left side of placket. Sew eyes on seam line.



No. 1954—Four-Gored Skirt
in Two Styles

Pattern cut for 22, 24, 26, 28, 30, 32, 34 and 36 inch waist measures. Length of skirt with tunic-drapery, 42 inches. Length of tailor-made skirt, 40 inches. Quantity of material required for medium size, or 26-inch waist, seven and five-eighths yards of twenty-two-inch material, or five and one-half yards of thirty-six-inch material. When the side tunic-drapery is omitted, one and five-eighths yards less of twenty-two-inch material, or one and one-fourth yards less of thirty-six-inch material, are required. The price of this pattern is ten cents



THE spring catalogue of WOMAN'S HOME COMPANION patterns will be ready for distribution March 20th. Every woman should consult this guide to correct dressing before selecting her spring and summer clothes. Its price is four cents. For every design illustrated in this catalogue there is a ten-cent pattern. Both patterns and catalogue may be ordered from Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.

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No. 1980—Scalloped Waist
Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36-inch bust, three yards of twenty-two-inch material, or one and three-fourths yards of thirty-six-inch material



No. 1959—Girl's Dress Buttoned in Front
Cut for 4, 6, 8, 10 and 12 year sizes. Material for 8 years, three and five-eighths yards of twenty-seven-inch material, or two and three-fourths yards of thirty-six-inch material, with one-half yard of contrasting or dark-toned material for trimming



No. 1798—Housework Apron: High or Low Neck

Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Quantity of material required for medium size, or 36-inch bust, seven yards of twenty-seven-inch material, or five yards of thirty-six-inch material. For low-neck apron, one and one-half yards less of twenty-seven-inch material, or one and one-fourth yards less of thirty-six-inch material, will be required. Gingham is practical

A Little Talk with the Fashion Editor

I WISH I really knew every woman who reads FARM AND FIRESIDE. I wish I had the opportunity actually to come in and see her and shake her by the hand and tell her something of my busy life and have her talk to me of all her many cares and responsibilities. But it just happens that it is my duty to stay right here in New York. This is where my work is and really this is where I can help you best.

So won't you let me talk to you, just as if we were old friends, even if we have not actually met? I want you to know me better; first, because I want you to understand how I am trying to help you and, second, because I am anxious for you to know the things in which I believe.

I suppose, my dear friends, that, knowing I am the Fashion Editor, you think that I believe there is nothing in the whole world quite so important and so interesting as clothes, and that I know nothing about all the big, important things in life which interest you—your children, your church-work and your tasks about the farm. I do, however, and I believe they come first. I also believe that every woman to-day, whether she lives on a farm, in a small village or in a big city, is paying more attention to her clothes than she ever has before. Away down in her heart, she wants to look attractive and knows that her dress can help her.

When I talk about the importance of being well dressed, please don't think I mean being dressed in the height of French style. I don't, by any means. I believe in sensible clothes, wearable clothes, clothes you feel comfortable in and look comfortable in, and yet clothes that have some style about them, too. Then I believe, oh, so very much indeed, in appropriate clothes. Now just what I mean by that is this: I mean clothes that actually fit in with the occasions. For instance, there is a certain type of dress that rightfully belongs with the house-work, and certain other types which are just as much suited to other occasions. Try, if possible, in planning your wardrobe, to have dresses suitable for the dif-

ferent occasions which you know are apt to come into your life.

I know all about the newest fashions almost before they are shown in Paris, and I am right here in New York where I can see what the American manufacturers are doing and what the big, important dressmakers are showing. When I come to plan clothes for you, I am glad, because it gives me the right style note to work on. This knowledge of women and clothes has taught me to know what to discard and what to keep. I know that you women who live on farms or in small towns want good-looking clothes, but you want them wearable clothes. You don't want your dress to make you conspicuous either by its being too far ahead of the style, or too far behind it, and it is just this that I bear in mind in designing the patterns for FARM AND FIRESIDE.

I do want you to feel, when you are looking over the fashion pages of FARM AND FIRESIDE, that I plan these fashions for you and that I try to keep the right style note and yet have the designs suitable for wearable clothes and clothes that you will like.

The patterns for these clothes are very simple to use. Some of you who have tried them have written me how much you depend on our WOMAN'S HOME COMPANION patterns and what a comfort it is that they go together so quickly and easily. I cannot have too many of these letters. I want you to feel that you can always write me about any puzzling questions which come up, about your clothes or about the patterns, I want to be your friend in need. I want you to be my friend and to tell me when I fail to think just straight.

Clothes are pretty much of a trouble after all, and if our patterns lessen your dress worries any, then I shall feel my work is worth while.

Grace Margaret Gould

Denatured Alcohol in the Farm Kitchen

By Alice M. Ashton

EVERY overworked country woman is looking longingly toward that haven of comfort, "a cool kitchen." To every such woman denatured alcohol offers the most satisfactory and economical remedy. A two-burner stove costs from six to nine dollars. It occupies so little space that it may stand on the range, table, or wherever most convenient; so light that it may be carried from one room to another, if desired, with perfect ease, and so clean and odorless that it does not seem out of place on the dining-room table. It costs less to run this little stove than it does the coal-range, and upon it may be cooked the meals for a large family. When the cooking is finished, it requires merely to be wiped off with a clean cloth, the pan wiped clean with a cloth dipped in a little alcohol if there is any sign of dark accumulation, and it is ready for the next meal. Utensils used upon it are never blackened or smoked. There is no odor, no ashes, no hot, suffocating room.

With the stove should be bought a portable oven, a steam cooker and a covered roasting-pan. In the oven may be done all the family baking.

A little experience and ingenuity will enable one to cook an-entire dinner in the steam cooker over one burner. In this, food may be cooked in the dishes in which it is to be served, thus saving a great deal of dish-washing of the most unpleasant sort. The covered roaster may be used directly over the burner, by turning the flame low and covering first with an asbestos mat; this requires much less heat than using the roaster in the oven, as is usual. If one may have a fireless cooker or a home-constructed hay-box to use in connection with this, the alcohol-stove becomes a still greater economy.

In many of the older farmhouses there is no dining-room. Only a family who has been compelled to eat in a suffocating kitchen can realize the comfort of an alcohol-stove.

Since the carrying in of fuel, the carrying out of ashes and the washing and blackening of the range is the most untidy work of the kitchen, the cleaning is going to be greatly lessened.

On ironing-day the ordinary irons may be heated by placing over the burner and covering with the usual iron-cover. But it pays to get an iron heated with denatured alcohol, as it requires less fuel to heat in this manner, the iron can be kept at an even temperature and many steps and consequently much time is saved. Such an iron costs from \$2.50 to \$5.

Alcohol also offers the best means of lighting available to the average farm

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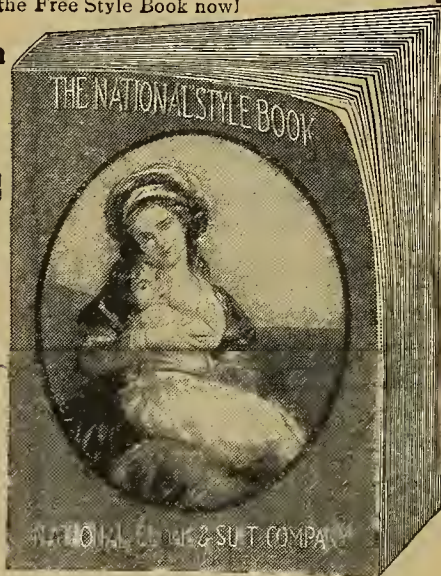
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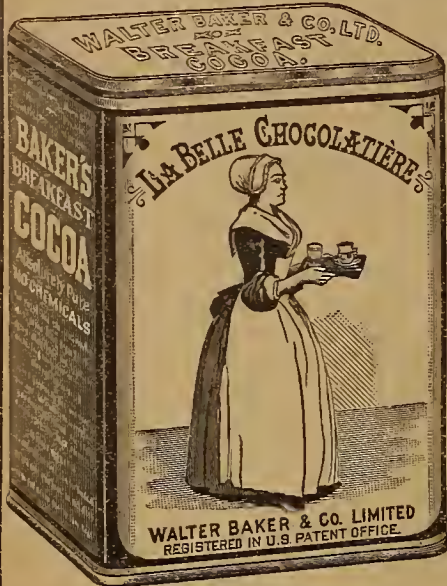
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BUFFALO SPECIALTY COMPANY,
250-C Liquid Veneer Building, Buffalo, N. Y.

HOME OIL, is a perfect lubricant for the home and farm

The Household Department

Practical Hints and Recipes for the Busy Housewife

Conducted by the Fireside Editor

FOR a quick, hot bread nothing can take the place of the light and fluffy biscuit, and with the variety of recipes here given, surely all tastes and occasions may be suited. Each recipe has been tested, and if the proper quantities are used and the directions carefully followed, good biscuits will result.

Raised Biscuits—Dissolve one rounded tablespoonful of butter in one pint of hot milk, add one-half teaspoonful of salt and, when lukewarm, one well-beaten egg, one cupful of yeast and one quart of flour. Work into a smooth dough, and let rise overnight. In the morning work lightly, roll out one-half inch thick, cut into biscuits, let rise for one-half hour, and bake.

Tea Biscuit with Potato—To three fourths of a cupful of hot, sifted potato add one fourth of a cupful of butter, one teaspoonful of sugar, one teaspoonful of salt, and mix all well together. Then add one cupful of milk that has been scalded and cooled, one-fourth ounce of compressed yeast and the white of one egg slightly beaten. Add enough flour to knead smooth, and let rise. Cut the sponge down, and when it has risen the second time, shape into rather small biscuits. Set them well apart in the pan, and let rise until very light. Bake in a quick oven. If set at ten o'clock in the morning, these should be ready in time for tea, or the evening meal at six o'clock.

Sweet-Potato Biscuits—Boil and mash fine while hot one large sweet potato, work in two eggs and flour enough for a dough. Add one-fourth ounce of compressed yeast, dissolved, and let rise overnight. In the morning work in a spoonful of butter, and mold into small biscuits. Let them rise to double their size, and bake in a quick oven.

Gingerbread without Eggs—When eggs are scarce and high, the housewife is glad to have recipes that she knows are good and that do not call for eggs. These two recipes have been used for years with perfect satisfaction. One cupful of shortening (half butter, half lard), one cupful of sugar, cream together, one cupful of cooking molasses, one cupful of sour milk, one teaspoonful of soda, one tablespoonful of ginger, half a tablespoonful of cinnamon, one fourth of a tablespoonful of cloves and flour as for cake. Bake in two loaves. If milk is scarce, use water. Many prefer it, as it gives a crisp crust, but must be eaten while fresh, as it soon dries out. If a cupful of raisins is added, it makes a fine substitute for fruit cake. A cupful of nut-meats is also an improvement. When made with raisins, if heated by steaming and served with a hot sauce, it makes a delicious steamed pudding. If baked in layers, and put together with tart jelly, it makes a delightful fancy cake.

MRS. C. S. EVERTS.

Oatmeal Cookies—One cupful of sugar, one cupful of shortening (half butter and half lard), creamed together, one cupful of sweet milk and all the oatmeal that can be stirred in, a cupful of raisins (a teaspoonful of soda dissolved in the sweet milk) and flour enough to make as soft a dough as can be handled. Flour the hands, roll a tiny lump in the palms of hands, then flatten into thin cakes, and bake slowly until a golden brown. These are delicious and will keep for weeks.

MRS. C. S. EVERTS.

THE following recipes made from canned fruit will no doubt help solve the puzzling question, what to serve for dessert? Dried fruit may take the place of the canned fruit, but to obtain the best results the fruit should be well soaked.

Plums—Place a layer of preserved plums on sliced stale cake, cover with custard, top with whipped and sweetened cream, and decorate with canned plums. This is a delicious dessert and easily made.



A New Egg Salad

Peaches—Cook a quarter of a pound of rice in three cupfuls of milk with the grated rind of a lemon and a pinch of salt. When tender and while very moist, add a tablespoonful of gelatin, dissolved in two tablespoonfuls of boiling water, and three tablespoonfuls of sugar. When it cools and begins to stiffen, stir in a cupful of whipped cream. Mold in a ring, and serve with canned peaches in the center.

Pineapple—Boil the syrup of a quart can of pineapple, add three tablespoonfuls of corn-starch moistened with cold water. Boil five minutes longer, remove from the fire, add two tablespoonfuls of sugar and the beaten whites of three eggs. Mold in a fancy shape and decorate with slices of pineapple and chopped nuts.

Apricots—Simmer three tablespoonfuls of tapioca in two cupfuls of milk, add about two tablespoonfuls of sugar and one-half teaspoonful of almond-extract. Cool, add one cupful of whipped cream, and pour it over crushed macaroons, soaked in apricot syrup. Chill, and serve with whipped cream and apricots.

Prunes—One tablespoonful of gelatin, two cupfuls of water, one-half pound of good prunes, three tablespoonfuls of sugar and the strained juice of one orange. Take the stones out of the prunes after soaking them. Cut the prunes in halves, put them into a saucepan with the water and sugar, and cook very slowly until soft. Add the gelatin, first dissolving it in hot water, then the orange-juice. Pour into a wet ring mold. When firm, serve with whipped cream in center. Decorate with ladyfingers.

HELEN A. SYMAN.

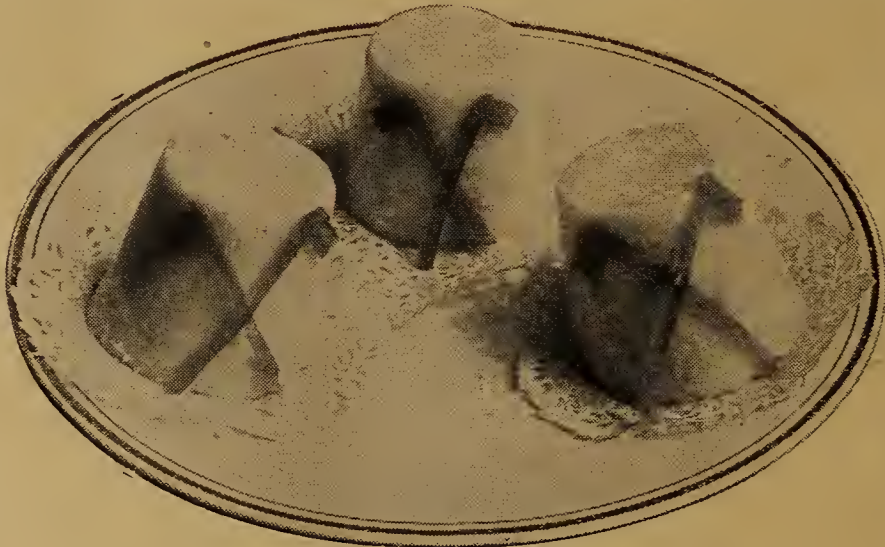
Household Hints—If you wish to copy a crochet pattern from an illustration, use a magnifying glass. All the stitches can be readily counted, especially those of Irish crochet. Cross-stitch designs are easily counted this way, and much eye-strain is avoided.

When giving sticky medicine to children, heat the spoon by dipping it for a moment in hot water. Then pour in the medicine, and it will slip quite easily from the spoon.

To drill a hole in glass, stick a piece of putty or stiff clay on the place you wish to drill the hole. Make a hole in the putty the size you want it in the glass, and pour in a little molten lead. Unless the glass is very thick, the piece will drop out.

When baby is teething, cut a dress-shirt in half, and baste it in the neck of his dress on the under side. It will just fit and will save the baby many an uncomfortable hour, as he will be kept dry and comfortable across his chest.

MRS. J. J. O'CONNELL.



Erin Dessert

A New Egg Salad—Arrange small, crisp lettuce-leaves in nest form on individual plates. Make an egg basket by slicing a piece from the small end of a hard-boiled egg. Remove yolk, and fill cavity with mayonnaise. Place in the center of the lettuce-leaf nest, and serve.

Erin Dessert—One pint of rich milk, two tablespoonfuls of corn-starch, one-half cupful of sugar. Boil until it thickens in a double boiler, and add the flavoring just before taking from the fire. Fold in carefully the stiffly beaten whites of two eggs. Pour the mixture into wet molds, and set away to cool. Remove from the molds, decorate with little pipes made of citron, and place on small round doilies to simulate hats. Serve with the following sauce: One cupful of maple sugar, one-half cupful of water, whites of two eggs, one-half cupful of sweet cream. Boil sugar and water together until it spins a thread, and add slowly the well-beaten whites of the egg and the cream.

MARY H. NORTHEED.

In laundering table linens, the wearing quality will be preserved and a greater whiteness secured if the cloths are not hung on the clothes-line to dry. When the table-cloths are properly washed, boiled and rinsed, pass them through a wringer, then spread them on a dry cloth, and finally roll up tightly. In two hours they may be ironed, or, if you wish, they may be left till the next day. Use very hot irons, and a beautiful sheen will be imparted to them.

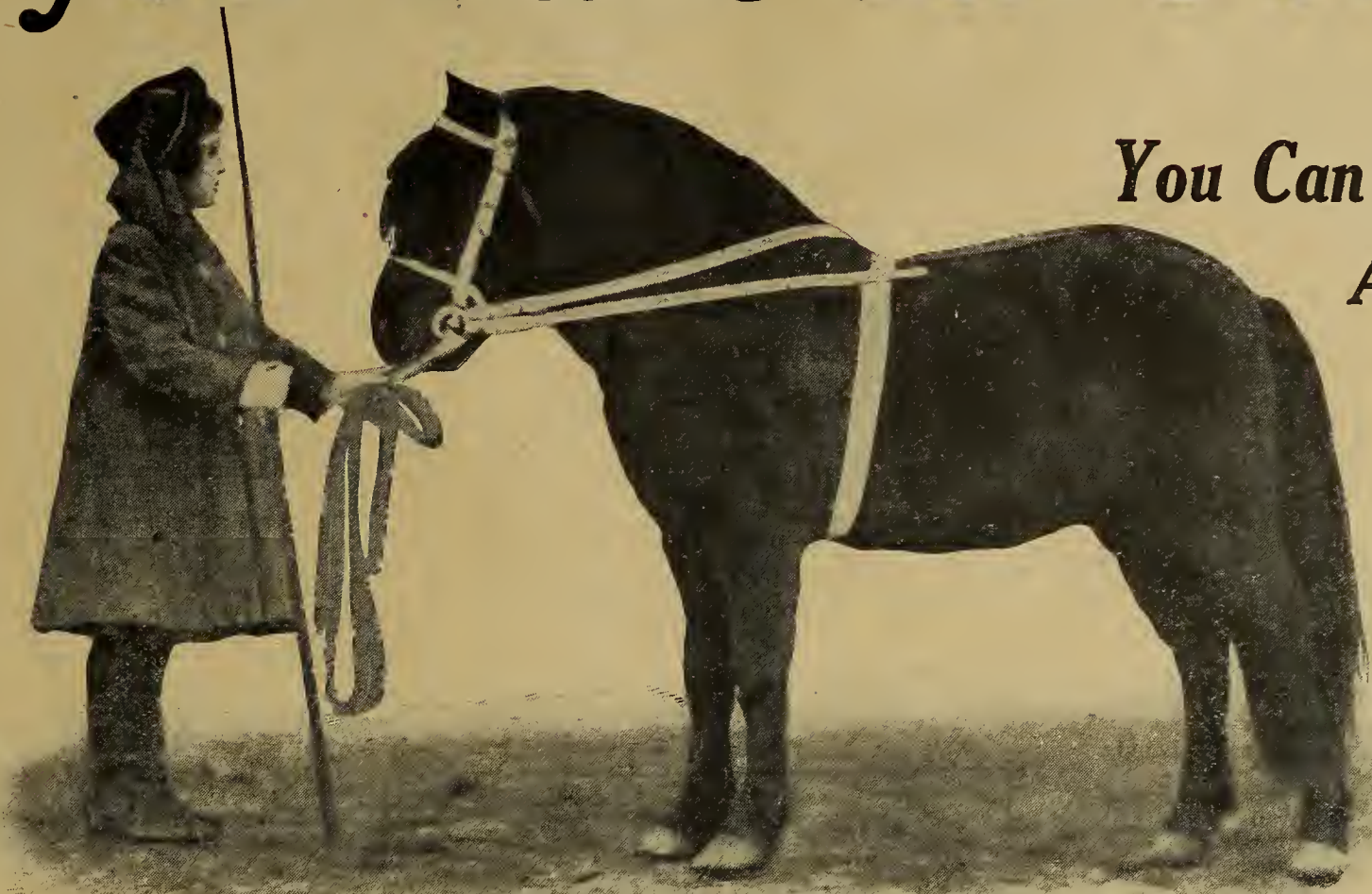
MRS. R. J. S. MICHIGAN.

If you are tired of plain breakfast cereals, try seasoning with some favorite spice. Place the spice in the aluminum shakers offered by FARM AND FIRESIDE and enjoy a delightful change.

MRS. IDA WILLIAMS.

Do you want this Pony?

**"Prince"
Is His
Name**



**You Can Win Him
And His
Cart and
Harness
Too**

"Prince" Will Be Given Away to Some Boy or Girl

THE PONY MAN of FARM AND FIRESIDE is going to give away "Prince" to some boy or girl. You can be that lucky boy or girl if you try hard enough. Wouldn't you love to have "Prince" for your very own? With "Prince" you will receive his handsome cart and harness, complete, all ready for a nice drive. What fun it will be to go driving every day this summer! How you will enjoy taking all your boy and girl friends for a drive! How quickly "Prince" will take you to the village or to the neighboring farms!

A Prince of Ponies

"Prince" is a genuine Shetland Pony and he is the most beautiful pony you ever saw. He is a chestnut with soft hair and the fluffiest, silkiest mane and tail in the world. He can go almost as fast as a horse, yet he is as gentle as a kitten. Yes, he loves children, and you will find that he will soon follow you around just like a dog.

"Prince" won't cost you a single cent, neither will his cart and harness. His cart is an elegant four-wheel runabout with whipcord seat and cushion, nickel trimmings and rubber tires. The harness is a jim dandy of the finest leather and just fits "Prince." It is the finest Pony Outfit ever offered by FARM AND FIRESIDE.

Read How to Win "Prince"

All you will have to do to win "Prince" and his cart and harness will be to get enough friends to read FARM AND FIRESIDE. That will be very easy because everybody who knows FARM AND FIRESIDE likes to read it.

For the boys and girls who do not win "Prince" there are two other beautiful Shetland Ponies. In this contest, FARM AND FIRESIDE is going to give away three Fine Pony Outfits to its boys and girls. You surely can win one of these handsome prizes. Just start to-day.

There are to be still more prizes! All told five hundred grand prizes are offered, including three elegant Pony Outfits, three handsome Pianos, Talking Machines, an Estey Organ, Bicycles, Gold Watches, Shot Guns, Cameras and everything that a boy or girl might want.

Every Contestant Gets a Prize

In this Contest, you simply can't help being a Winner, because every single contestant gets a prize. We absolutely guarantee a prize to every Pony worker. We want every FARM AND FIRESIDE boy and girl to take part and win a handsome reward. Just as soon as you become an enrolled contestant, you are sure of a big prize.

And what is more, just as soon as you become an actual contestant, in addition to all the prizes, FARM AND FIRESIDE will pay you in cash for every subscription you get.



Here is "Prince," Cart and Harness, All Complete

**Three Magnificent Pony Outfits
Five Hundred Elegant Grand Prizes
A Prize for Every Enrolled Contestant**

Pony Man, Farm and Fireside, Springfield, Ohio

The publishers of FARM AND FIRESIDE guarantee that every boy and girl who enters this Contest will receive a square deal and will be fully rewarded for all time spent.

The first thing to do is to send the Coupon to the Pony Man to-day. He will send you at once a big free package, including handsome pictures of the three Prize Ponies, and full description of all the prizes; the pictures of FARM AND FIRESIDE boys and girls who have won Ponies in the past and pictures of their Ponies; together with full details how to win "Prince" and the other Ponies, and the cash rewards. The Coupon will bring your Pony package by return mail—it won't cost you a cent.

Don't Wait—Start Now

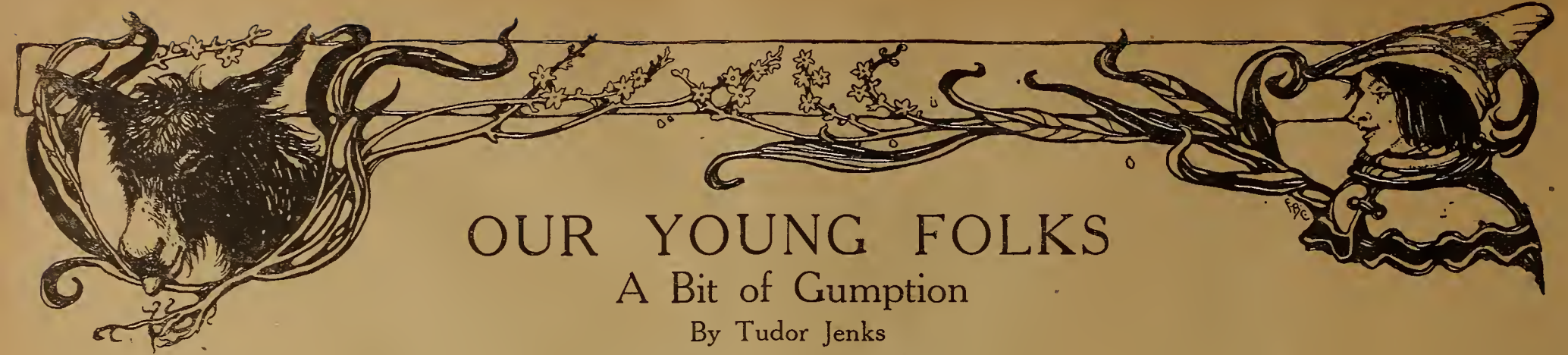
If you want to make sure of a prize right away and become an enrolled

contestant, don't wait until you get your package from the Pony Man, but start right out and get ten friends each to give you 25 cents for an eight-month's trial subscription to FARM AND FIRESIDE. Keep 50 cents for yourself as commission, and send \$2.00 to the Pony Man. Then you will be an enrolled contestant and a prize winner sure. It is very easy to get subscriptions to FARM AND FIRESIDE, because it is the best farm and family paper ever published. Fill out this coupon.

**Cut Out
This
Coupon
To-day**

DEAR PONY MAN:
Please tell me by return mail how to win Prince. Also send me free the pictures of Prince and the other Ponies and complete information. I am very anxious to get Prince, so save place for me in the Contest. I will try to become an enrolled contestant as soon as possible.

Name.....
Town.....
R. F. D.State.....



OUR YOUNG FOLKS

A Bit of Gumption

By Tudor Jenks

Illustrations by F. B. Comstock

IN THE land of the Swiss stood a town full of bliss. (If ignorance deep be the secret of this). When enemies threatened this town to invade. In a huge iron box all their treasures were laid For security's sake. They rowed out on the lake And dropped the box in—being careful to make A mark on the boat, to show them just where Their treasures were hidden with prudence and care!

To their grief and surprise—there the treasure still lies. Deep down in the depths, long lost to their eyes. Since the mark they relied on came home with the boat, It could not the place of deposit denote!

It happened, one day, that a peddler astray Came to this town his wares to display. And showed forth his goods in the usual way. But, though the poor huckster most takingly clowned, While crowds gathered round, he very soon found That all of his patter would not avail To bring to life even the ghost of a sale. They'd laugh at his jokes, and thought him quite funny. But never a burgher pulled out any money.

At length he gave over, and went to his inn. Here Mine Host to condole with his guest did begin, Declaring the reason the town was so short; Explaining how nothing at all could be bought, For all of their cash had been lost on the lake On the day that they made that "unlucky mistake."

The peddler felt huffed at being rebuffed, So a while on his pipe just sullenly puffed; Then remarked that he hoped they'd not think it presumption If he should declare "what they needed was Gumption!"

Now here was a word Mine Host had not heard. So he begged he might know to what was referred. "Is it fish, flesh, or fowl?—or, maybe, a plant? Is it common or rare? Would his guest please descant On this substance of worth? And tell how on earth To get some?"

The peddler, restraining his mirth, Began a discourse on that "marvelous herb" That was now "raised in—Venice." He told how superb Were its virtues, its beauties; while Mine Host in amaze Remained arms akimbo, mouth open, at gaze, And swallowed the story—as bumpkins at plays.

Here the narrator ceased. From the spell just released The landlord was in the right state to be fleeced. He begged—as a favor—the Mayor might come; With just a few Councillors—he hoped to find some To consult upon measures for raising some "Gumption," Near at hand, to be handy, for their home consumption.

The shrewd peddler lad was "only too glad To be sent to Venice, to see if they had Some clippings or seed to supply the town's need."

Yet he feared that the price—through Venetian greed Might be high. So he thought they couldn't do worse Than to send him so far with too light a purse.

"If I jingled in sight some gold pieces bright— I don't say I *can*—but I do say I *might*— Induce some Venetian to sell me the plant; Though I'm told it comes high,—the supply is so scant. But there!—you can't buy it, your money, it seems, Is sunk in the lake! Good-night. Pleasant dreams!"

"Not so fast," said the Mayor. "Of course I might say a Large part of our cash is hidden away or Lost for a time. But our credit is good. I don't say we *can*, but I think that we *could* Raise cash, more or less. Let us make the assumption, And tell us how much will procure us some Gumption?"

The peddler looked wise, then he half closed his eyes. As he gazed at the gudgeons so tempting in size. He counted his fingers, then nodded his head: "Um—ah—yes! Two hundred will do it," he said. "Or, counting for trouble to keep it alive, To make doubly sure, we'll say two twenty-five!"

Well, 'twas a large sum. They were almost struck dumb. But they so wanted Gumption—the amount had to come.



the peddler . . . sat himself down at the very same inn, in the very same town!"

Cousin Sally's Letter

DEAR GIRLS AND BOYS— Here it is, the beginning of March! And how about our school problems? Before this I have talked with you about wanting to better our schools. Now I want to ask my cousins who are interested to write me letters. Tell me just what your school needs—ask your teacher. I want a letter from every boy and girl in our Club.

Is it a stereopticon, a talking-machine, a school garden, some framed pictures, lessons in cooking and sewing, curtains at the windows? Tell me what you want, no matter what it is, and let me tell you how to get it. Remember, I want a letter from every cousin in the Club. Not only do I want to know what you need, but I intend making this the subject of our March contest.

For the ten best letters on the subject, "WHAT OUR SCHOOL NEEDS," I shall send ten prizes—five to the girls and five to the boys. The prize letters are to be hung or placed in the school-room so you can tell all the other girls and boys about Cousin Sally and her plan to make every school-room beautiful and to plant flower and vegetable gardens in every school yard.

Now is the time to get BUSY! Talk it over with your teacher, and then write me a letter. Don't forget to write your full name and address, also your age, in the upper right-hand corner of your letter. Address Cousin Sally, FARM AND FIRESIDE, Springfield, Ohio. The contest closes April 15th. Come, cousins, write me.

Faithfully yours,
COUSIN SALLY.

And they begged and they borrowed, it may be they stole, Till the money was raised, and they handed the whole To the peddler, who stowed it away in his pack And straightway set off.—Guess when he'll come back?

Two years rolled away—a habit, they say. Years have. And at length, one ill-omened day, In the course of his travels by chance it fell out That the peddler, not thinking what he was about, Came to the village and sat himself down At the very same inn, in the very same town!

What an unlucky chance! Mine Host at a glance Knew the peddler, and around him began a wild dance, Exclaiming, "He's here! The peddler's come back! He is bringing the Gumption safe stowed in his pack!" And he darted away to carry the news, While the peddler at first just shook in his shoes! But then, he reflected, all that they expected Was simply to see the plant he'd collected; And since the herb Gumption was not to be had, He'd show them some plant—be the same good or bad. So he rushed out of doors, chose the first weed he found, And wrenched it at once, roots and all, from the ground.

When the landlord came back with a wondering pack Of burghers and women, with tongues all a-clack, The peddler unwrapped a small bundle, and shows The "wonderful herb known as Gumption, which grows At Venice, as high as—a clever man's head— And can seldom be bought"—at least so he said.

Then each bumpkin tries to gaze on the prize, Which seems, for a costly thing, tiny in size. But though there's a skeptical fellow or two, The rest cry, "Just wait! We'll see what 'twill do. There's many a plant of most marvelous powers, Though a mean-looking herb like this Gumption of ours!"

The Mayor looked grave. With an eloquent wave Of his arm imposed silence, and remarked, "Friend, we crave Your further directions. Tell what must be done This task to complete that is so well begun. Pray how must the Gumption—this herb of great cost, Be planted, be nourished, be guarded from frost?"

The peddler now took from his pocket a small book. For a while through the pages pretended to look, Then read out as follows: "Plant the herb in good ground, First drawing a circle three times three yards around; And after one year from the day this is done The fruit will be ripe at set of the sun."

So they traced the great ring, and they planted the thing, And waited to see what the seasons would bring. But—alas and alack!—ere the term was complete, A donkey came by, seeking something to eat; Saw the "Gumption" looked good; and straightway he cropped

It close to the ground before he was stopped!

And that was the end! For how could they send For more of the plant with no money to spend? When the peddler returned to the village to ask How these raisers of Gumption made out with their task, "A donkey has eaten it!" grumbled Mine Host. "What a shame!" quoth the peddler. "You needed it most!"



SUNDAY READING

Our Wants

By A. M. Gordon

YOU remember that old "Peter Bines" in "The Spenders" said, "It's wantin' reasonably that keeps folks alive, I reckon. The mis-a-blest folks I've ever saw was them that had killed all their wants by overfeedin' 'em."

Most of us think we are to be pitied if we have any ungratified wants, but if Uncle Peter's observation is true, the people who most need sympathy are those who have no wants; a large amount of silver and gold making it possible for them to possess what may be purchased with silver and gold. To be sure, there are wants which cannot be satisfied by silver and gold, but many of them can be.

Now, why are people who have no wants to be pitied? So long as a person has wants, he is likely to push ahead, but if there is nothing to strive for, he will usually sit down satisfied. It is as if one were climbing a hill in pursuit of game at the top. If another person shoots it for him and brings it down to him, he no longer has a desire to climb the hill. So he does not gain the strength which is only for those who exercise, he misses the view at the top and the satisfaction which comes to those who accomplish their aim by their own efforts.

The fact is, our lives are not made up of what we have, nor even of what we are. That which really most defines a life is not its acquisitions, nor its possessions, but its desires, its expectations and its visions. Life is not a being, but a becoming. It is unfinished, and so we should be pressing ever on. To rest content with our condition or possessions means to lose our vision and our desires. And "where there is no vision, the people perish," says the wise man. There must be something ahead—something for which we are striving, some higher ground which we hope to reach.

So, blessed are those that want! Money is a good thing if we make it our servant instead of our master. But there is great danger that it will become the master.

To quote Peter Bines again: "The money can't prevent me from doing what I jest want to—certain—but, maybe, don't it?" That is the danger. Material prosperity is apt to take away all desire to push on. Rich people are likely to become as indolent as those in the land of the lotus-eaters, where it was always afternoon.

Thoreau says, "We are awake when there is a dawn in us." There is no dawn in the average rich man, his riches lull him to sleep. Occasionally, a Theodore Roosevelt, born in affluent circumstances, but caring more for life than for riches, proves that money need not keep a person from leading a progressive life.

But we are not fortunate in having wants unless they are of the right sort. We may be striving for something which is not worth the having. Low aims are as worthless as no aims. For what are we living and working? As money should be a servant rather than a master, a means to an end rather than an end in itself, we should not seek riches for the purpose of hoarding them or using them in a selfish or unworthy way. Our greatest desire should be to live a life which shall ultimately benefit others. To accomplish this, we must broaden and expand and enrich our lives in every possible way, because we must get before we can give. For such a purpose, money is a useful servant. Yet the lack of it, in large quantity, does not prevent one from living a broad and helpful life. "Where there is a will, there is a way" and in the School of Life the tuition is not paid in coin.

By their wants ye shall know them, might be said of us all, because our wants declare our purpose and our aim. Our wants reveal our character.

"The thing we long for, that we are," not only "for one transcendent moment," but for all life. Therefore, to let the highest life in, "Desire must ope the portal" and then by constant, diligent effort we must strive to realize our longing.

Nature's Book

By A. P. Reed, M. D.

AT ONE time Ralph Waldo Emerson invited some boys to meet him at the Allen farm near Boston, for an afternoon stroll in Nature's woods.

On entering the woods, they all removed their hats, while Emerson addressed them in a way characteristic of him, thus:

"Boys, here we recognize the presence of the Universal Spirit. The breeze says to us in its own language, 'How'd ye do. How'd ye do?' And we have already taken our hats off and are answering it with our own, 'How'd ye do, How'd ye do?' And all the waving branches of the trees, and all the flowers, and the field of corn yonder, and the singing brook, and the insect and the bird—every living thing and things we call inanimate feel the same divine impulse while they join with us, and we with them, in the greeting, which is the salutation of the Universal Spirit."

What more effective way to impress upon impressible minds the fact of God in Nature?

Emerson saw in Nature's book a great religion.

To him we may well apply Wordsworth's words:

Thy Soul was like a star and dwelt apart,
So didn't thou travel on life's common way.

"On life's common way," yes, Emerson was a great *commoner*.

He "dwelt apart," yet not in the sense of exclusiveness, for his benignity beamed upon all; not in the sense of the aristocrat, since his very dwelling "apart" consisted in his excelling in graciousness and the common courtesies of life.

Of him Matthew Arnold said, "He was the friend of those who would live in the spirit" of high ideals.

Like him, we may all draw inspiration from Nature, since Nature's book is before all, and always open with the hosts of lessons, challenging us to read and imbibe and make the truth a part of our lives, albeit so common have her object lessons become to our eyes and so fast are our lives, that we only just glance at a book holding for us the very treasures of life trooping before our inattentive vision!

Even the turning of the seasons and the passing of the twenty-four-hour day carries each its lessons.

The night is mother of the day,
The winter of the spring,
And ever on the old decay
The greenest mosses cling.

Behind the cloud the starlight lurks,
Through rain the sunbeams fall;
For God, who loveth all his works,
Has left his hope with all.

The poet Whittier, author of these lines, could well join hands with Emerson in extracting meat from Nature's book.

This innate sense of Nature's continuous though silent appeal to man marks a nobleman, a noble man in the true (unaffected) sense.

Ever glorified is he who can thus call the blessings of Nature to himself and apply them to the beneficent purpose of enhancing the glory and beauty of existence!

Pity some of our melancholics and suicides could not get a grip on themselves through such a process that outside of all creeds and churches may furnish a religion that "Neither moth nor rust dost corrupt."

It is a good and safe rule to sojourn in every place as if you meant to spend your life there, never omitting an opportunity of doing a kindness, or speaking a true word, or making a friend.—Ruskin.

The Gift

By Gladys Hyatt Sinclair

GRAVED in the diary of common days,
'Mongst things erased, rewritten,
blotted, blurred,
I thank Thee if throughout my record
strays
The kindly word.

I thank Thee if within my quiet home,
Or through the marts where clash of
trade is heard,
I leave, to mark the narrow ways I roam,
The kindly word.

No torch is mine, to scatter world-wide
gleams;
No thought of mine has mighty issues
stirred;
I thank Thee that, to light my pathway,
beams
The kindly word.

Thy light be in the torch that flames afar!
Thy might be with the men by Fame
preferred!
Mine be to break Thine alabaster jar—
The kindly word.

Elegant Easter Post-Cards for You

WE want every reader of FARM AND FIRESIDE to have a set of our beautiful Easter Post-Cards. These cards are the latest and finest production of the post-card manufacturer. We have had them made especially for our readers. Just think, the artist who designed these cards worked on them for more than a whole year. You will admit that the designs are perfect and that the coloring could not be improved upon.

Beautiful Designs

Never before have we seen such a perfect display of post-card art. The workmanship and coloring of these cards stand unrivaled. Each card in the assortment we have for you is different, but every card is a complete and perfect picture. These cards are bound to excite the admiration of all your friends, but it will be impossible to obtain more like them.

Wonderful Variety Gorgeous Assortment

Each card is printed in from twelve to fourteen colors and gold. The variety is perfectly wonderful. No two cards in the assortment we have for you are alike. The gorgeous embossing, rich colors, dainty and delicate touches brought out in each card show the work of a master artist. Some of the subjects portrayed in the pictures are **rosy-cheeked children, beautiful flowers and landscapes, Easter rabbits, Easter eggs** and an endless variety of other subjects connected with Easter time. Remember, April 7th is Easter Sunday. So right now is the time to have these cards.

Unrivaled Offers

Good Until March 15th

Offer No. 1. Every reader who sends us \$1.00 in payment of a three-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a **set of fifty Easter Post-Cards, all charges prepaid.**

Offer No. 2. Every reader who sends us 50c. in payment of a one-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a **set of fifty Easter Post-Cards, all charges prepaid.**

Offer No. 3. Every reader who sends us 70c. in payment of a two-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a **set of fifty Easter Post-Cards, all charges prepaid.**

CLUB-RAISER SPECIAL

Get two of your neighbors to hand you 35 cents each (**special club-raiser price**) for a year's subscription to FARM AND FIRESIDE. Send us the 70 cents for the two subscriptions, and we will send you as special reward our set of fifty beautiful Easter Post-Cards, all charges prepaid.

MAIL YOUR ORDER NOW

Send Your Order to
FARM AND FIRESIDE
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Ponies and Pony-Winners

A Story of Farm and Fireside Pony-Contest Winners

FOR a number of years the publishers of FARM AND FIRESIDE have made it a custom to hold a Pony Contest for the benefit of its boy and girl friends every spring. Thousands of boys and girls have taken part in our contests in the past and we believe every one of them as a result is to-day a better friend of the paper. Our contestants have the jolliest kind of a time and, besides, they can get handsome prizes. The FARM AND FIRESIDE Pony Contest history actually reads much like the story of Aladdin and His Wonderful Lamp, brought up-to-date. The contestants are required to do FARM AND FIRESIDE a little favor, and, presto! the Contest is over and our young friends receive Ponies and Pony Outfits, besides many other handsome and useful prizes of really astonishing value.

Why We Give Ponies Away

FARM AND FIRESIDE is continually reaching out to get acquainted with new readers, and at the same time, by act, word and deed, retain the friendship and support of our old subscribers. Although this paper has already more than two million readers in the United States, still we are not satisfied. We really think that FARM AND FIRESIDE deserves twice this many readers. All our present subscribers have friends and neighbors who ought to be readers of FARM AND FIRESIDE. How are we to become acquainted with these people? True, we could advertise our paper in other magazines and periodicals. We could have thousands of large, vividly colored posters pasted up on sign-boards, barns and other buildings explaining the merits of the paper. All this would cost a whole lot of money. We think we can spend this money with our old friends and accomplish the same results, so each year we set aside a good big lump of money to provide our old subscribers—more especially our boy and girl readers—with suitable and handsome gifts, all for doing a little advertising for FARM AND FIRESIDE among friends and neighbors, and help us get acquainted.

Our Last Year's Contest

In last year's Contest, every boy and girl who took part in the Contest received a handsome and appropriate prize, from the winner of "Beauty" down. To begin with, every contestant was allowed to retain a certain amount of all subscription money collected, as cash commission. This was all in addition to the regular prizes. From this you will see that every worker really received two rewards for each subscription. Every contestant was also offered his choice of a prize or a definite cash reward. In addition to the Pony and Pony Outfits, Pianos, Organ, Graphophone, Cameras and other prizes that were sent to Pony workers, we paid out nearly \$3,000.00 in cash to FARM AND FIRESIDE boys and girls.

At the bottom of this page is a picture of Wilbur Corey, the boy who won "Beauty" in last spring's Pony Contest. Just read what this bright youngster has to say about "Beauty."

This year the contestants will have only a short time to work for a Pony, as the contest begins next week. All of FARM AND FIRESIDE's boy and girl friends should read over very carefully the letters that we are printing on this page. Then if you are not entirely satisfied, write to the Pony-Winners and other prize-winners and ask them about the way they won their prizes. When writing to these boys and girls, however, you should enclose a two-cent stamp to pay the postage of the reply to your letter. Better still, let the Pony Man know that you are interested, and he will send you a list of other boys and girls who also won Ponies in FARM AND FIRESIDE Pony Contests, and will give you pointers and information explaining just how you should go about winning a Pony.

A Pony-Winner's Story

DEAR PONY MAN—

"Beauty" is getting along nicely and is everybody's pet. He likes to come to the house every chance he has for a cookie or something to eat. One day he actually came into the kitchen. Mother opened the door and said, "Come on 'Beauty'," and in he came. My sister and little brother think he is just right. They love to ride him. I can't begin to tell all about him, how much we love him. He is such a dear little body. Everyone thinks "Beauty" and his outfit is just a splendid prize and one well worth working for, and that you did just as you promised. I will mail you a picture of "Beauty" and myself. I hope you will receive it all right.

WILBUR L. COREY, R. F. D. No. 9, Auburn, New York.

"Jack," the Second-Prize Pony in last year's Pony Contest, was won by Virginia Jamison, a little girl who lives in Iola, Kansas. Just about an equal number of boys and girls have won ponies. Altogether, we have given away about thirty ponies to our little friends. The FARM AND FIRESIDE Pony Man is very careful to select only the very finest ponies for our Pony-Winners, and every Pony is already broke to drive and ride before it is given away.

Read what Allen Webber, the boy who won the First-Prize Pony two years ago, has to say about his Pony, "Fuzzy":

DEAR PONY MAN—

Once again I am going to tell you how pleased I am with the Pony I won in your 1910 Pony Contest. Only I cannot find words to express my gratitude and delight with my pony and cart.

You see I have used all the words I know to express my pleasure before this, and now this is the greatest happiness I have ever known and those same words don't seem to express enough. But truly those who deal in ponies and others who know about ponies tell me "Fuzzy" is as good a pony as money can buy, and I always tell them that "Fuzzy" is a pony that money can't buy, as I will not sell him at any price.

And my cart also is one of the prettiest and best on the market. As you see, I could write and write and then I could not tell all the merits of my pony. Just think the most favorable things you can of my pony and then think he is much better than that, and even then you won't know how splendid he is.

Yours with very much love and gratitude. ALLEN WEBBER.

Fine Cash Reward

DEAR PONY MAN—

I received my check for \$14.88, and I want to thank you so much for it. I think I am well paid for the time I spent in getting subscriptions. Again thanking you. I am.

MINNIE SELBY, Demopolis, Alabama.

DEAR PONY MAN—

Your letter received with the order for \$27.48. Was very much pleased with my prize, and I have cashed it and will make a bank account with my money earned. Yours truly,

WILLIS J. MOFFITT, Rosebury, Oregon.

An Unexpected Prize

DEAR PONY MAN—

I received the picture Monday all O. K. I thank you very much for the beautiful picture. I expected nothing because I did not get enough subscribers to expect anything.

BEAULAH EMRICK, Wapakoneta, Ohio.

A Delighted Contestant

DEAR PONY MAN—

I received my Regina Music Box in good condition, and think it is very nice, and I am perfectly satisfied, and I want to thank you very much for it. Wishing FARM AND FIRESIDE much success. I am.

MISS DELLA POLHEMUS, Robbinsville, Maryland.

DEAR PONY MAN—

I received my camera yesterday at noon. Was so glad to get it. I think it is so nice, and I sure will help you next year if you have another contest. Please let me know about it. I sent after some films yesterday, and they will be here about to-morrow. I know the boys and girls who got the ponies are proud of them, for I surely am proud of my camera, and will always speak a good word for FARM AND FIRESIDE. Thanking you so much for the camera you sent me, I am your friend.

ALICE GEORGE, Salem, Kentucky.

Well Paid

DEAR PONY MAN—

I received my brooch some time ago. It certainly is beautiful, and I am well paid for such a short time I spent in earning it. I did not think I would get any prize, but you are honest in your dealings. When you have another contest, will you please let me know so that I may enter it, and I will try and win a Pony. Thanking you very much, I remain,

Yours truly, CLARA GRIMSHAW, Keene Center, New York.

DEAR PONY MAN—

I wish to thank you now for the watch I received as a prize. I was so busy ever since I received it I did not thank you sooner, but I did not forget it. When you sent me the lists to pick a prize from, I was altogether surprised to think what a prize I got for the little work. Next spring I am going to try again.

From CHARLES E. LEESER, Louisville, Ohio.

DEAR PONY MAN—

I received the brooch a good while ago. It sure was a beauty. It was just what you said. I want you to let me know when the next contest begins. FARM AND FIRESIDE sure is a good paper.

MINNIE HELEN MCGAUGHEY, Waco, Texas.

DEAR PONY MAN—

I was so well pleased when I received my nice hand-bag. I did not get a pony, but I did get a beauty at least, for there is nothing more beautiful than the hand-bag I received. I think I was well paid for my trouble. Thanking you for your kindness and wishing FARM AND FIRESIDE success, I will bid you good-by until the next contest.

BESSIE CARTER, Chuckey, Tennessee.

DEAR PONY MAN—

I received my pretty little watch to-day, and I think that I never saw a prettier one before. I don't think that I would take anything at all for it. It is so very pretty. I thank you ever so much for it. I will close for now.

RUBY DAWSON, Hayden, Colorado.

Our New Pony Contest

FARM AND FIRESIDE's boy and girl friends will welcome the glad news that the Pony Man is now about to start a new Pony Contest. In this new Contest we will give away three handsome ponies and complete pony outfits, besides every boy and girl who takes part in this Contest will receive an appropriate reward.

We have gone over this matter very carefully with the Pony Man and can assure you that this will be the best Pony Contest yet conducted by FARM AND FIRESIDE, and that every contestant will get a fair and square deal. Turn over to Page 35, and read all about this new Pony Contest.

It is not hard for any industrious boy or girl to win a Pony. A Pony contestant can get enough subscriptions to FARM AND FIRESIDE after school hours to win a Pony. Just turn to Page 35, and read what the Pony Man has to say to you at this time.



Wilbur Corey, Auburn, N. Y., the winner of "Beauty" in 1911 contest



Virginia Jamison, Iola, Kansas, who won "Jack," the second-prize pony in 1911 contest

Hobbies

By Pearle White McCowan



ALL men need a hobby.

Now a hobby is something entirely outside of the mere performance of the day's duties, and is anything which may be taken up to fill a need of the human soul, whether it be simply for recreation, diversion, or for greater mental and moral attainment.

There is scarcely a person who has not at his disposal a certain amount of time, aside from that employed by the regular duties of the day. Their manner of disposing of this time is a matter of importance. A mere aimless drifting, with whatever of diversion or duty the hour may bring forth, leads to nowhere in particular, unless, as often happens, it breeds the seeds of discontent and stagnation. But a wholesome, purposeful occupation of this time, with due regard to the individual needs (whether mental or physical), begets enthusiasm, hope and contentment.

There is no period in the life of a man or woman that will not be enriched and made more worth the living by the sane and enthusiastic pursuance of a hobby.

Youth needs a hobby as an outlet for the surplus energy that is clamoring to be used, and which must needs sway him powerfully either for good or ill. The leisure hours have been the making of many a boy or girl—and the destruction of countless others. The boy who furnishes and enjoys his little carpenter shop, or indulges his naturalistic tendencies by a collection of beetles and bugs galore, or who is interested in his own little experiments with electricity, chemistry, and so forth, seldom goes far wrong. It matters not what the occupation may be (if it is the thing he wants to do), whether study, poultry, gardening, or athletics, if it gives him something to do in his leisure time.

Youth may do much with a hobby, and it sometimes happens that what was begun as a hobby ends by becoming a life work. Abraham Lincoln educated himself in his leisure hours. Thomas A. Edison did much of his preliminary thinking and work while occupied with earning his bread and butter in ways entirely foreign to the great profession which has made his name a by-word in our homes.

The girls who are enthusiastic over music, elocution, painting, drawing or some one of the entirely practical arts, such as cooking, sewing, etc., are not the ones who are found upon our streets to-day.

Yes, youth needs a hobby, possibly more than any other period of life.



Busy middle age needs a hobby as a recreation, a diversion, a getting away from the stress and strain of active mental or physical labor.

Many a breakdown has been averted by a timely interest and employment in something entirely foreign to the real occupation. Rest is not always brought about by a mere cessation of work. It is change that most individuals need. Something that will occupy and interest to the exclusion of worrisome details and perplexities of business or household cares. It may be an old hobby of youth, picked up again with renewed zest; it may be the indulgence of some long-desired luxury, or the mere getting away to nature once in a while. It matters little what it is so long as it serves its purpose. By means of the development of newspaper reporting, "Teddy" Roosevelt's hunting and Grover Cleveland's fishing have become popular subjects for jokes. But, fundamentally, they have the right idea. It is the "letting loose," the entire dropping of the reins for a little while, that many a man needs.

Yet some middle-aged men and women have adopted as hobbies something that

has blessed and pleased not only themselves, but their friends, and sometimes even a critical public.

Harriet Beecher Stowe, with her manifold cares of home and family, found time to write "Uncle Tom's Cabin." General Lew Wallace was a lawyer, but he wrote "Ben Hur." Judge Lindsay saw the need and made himself a prime factor in the establishment of the Juvenile Court at Denver, and thereby interested the whole country in similar reforms. Fannie Crosby was blind and a teacher in a blind school, yet she wrote hymns that have touched the hearts of millions upon millions of people.

A man well known in religious circles, claims as his hobby "Boys." And the camping parties and general good times which they share together, and the hold he thereby gains upon them, lifting and helping them toward higher aspirations and nobler lives, is a beautiful work well worth the time and effort of any man.



A clerk in the municipal court in Chicago built himself a little observatory and purchased a telescope. The neighbors laughed and called it his cheese-box. But the articles he wrote about his discoveries in the heavenly realms attracted the attention of learned astronomers, who began to ask, "Who is he?" and they were astonished at what he had accomplished with his meager equipment. But what of that, what if no one had known of his little hobby? It would still have served its purpose in the broadening of his life and the preserving of his mental and physical energy.

The teacher who, in her leisure time, studies a language or a science may be thereby fitting herself for a higher position.

The business man who takes time for Sunday-school work, municipal reform, or any of the things which stand for the public good, is not only keeping his own life fresh and young and interested, but he is touching and uplifting other lives.

Judge Blair, in his leisure hours, when off the bench, with his statistics and forceful utterances has become a mighty factor for local option.

Yes, busy men and women need a hobby to turn their thoughts away for at least a portion of each day, from the ceaseless, wearing grind of ever recurring and increasing duties. If in this turning away they choose to do something that shall not only strengthen and broaden their own lives, but shall bring blessing and good cheer into other lives, God bless them. They are noble characters. The world needs many more of them.

In the latter part of middle age, when children leave the home nest and parents are alone, after, perhaps, a growing apart in the busy years of providing for and rearing of the family, a hobby of mutual interest will be a boon indeed. It may be only a garden, the raising of flowers (two such people almost grew young again in their enthusiastic raising and propagating of a choice strain of dahlias), or it may be poultry, or quiet country drives which they never had time for before—anything which may bring their lives together again in sympathetic understanding and comradeship.



Sorrow needs a hobby to give new interests and new hopes and aspirations.

Joy needs a hobby as an outlet for its bubbling exuberance and spontaneity.

Old age needs a hobby to keep its thoughts away from self, and as a consolation for the disappointments that creep into every life, disappointments which, if dwelt upon, bring heartache and despair. And so I say again, all men need a hobby.

Reserve Garments

By Hilda Richmond

"JUST a change is all we have," explained the mistress of the house in an embarrassed manner when the doctor called for a clean nightgown for the little patient. "Her other one is in the wash." There was a great scampering about and much time was lost while an old faded frock was produced in which the child could be clad, and that under the feeble protests of the sufferer.

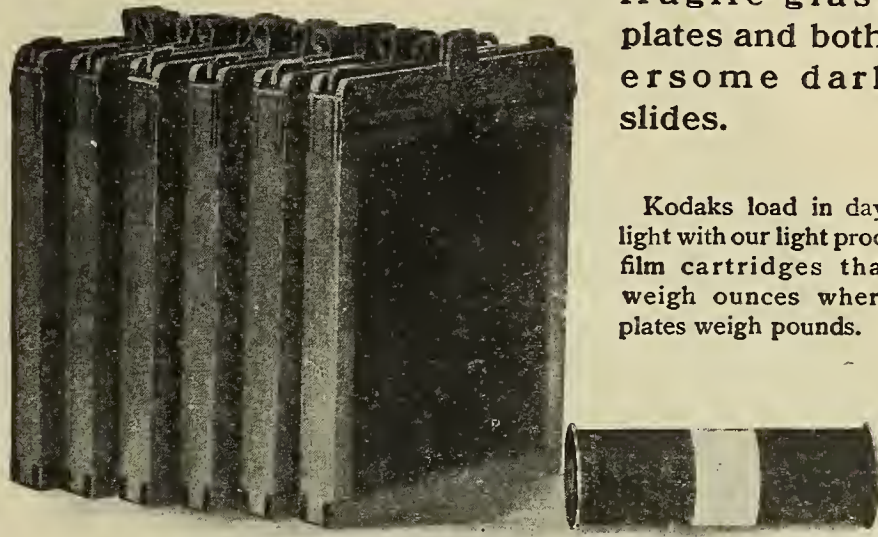
"It is really amazing," said the physician, "how many homes, and homes of well-to-do farmers, have absolutely no reserve garments. Time and time again when a glass of water is spilled on the patient's night-clothes, there is nothing to do but leave him in them to catch cold or wait half an hour or so until some sort of makeshift may be improvised. In such homes sickness should be carefully planned so that it comes after the week's laundry work is done, and not before."

And there is a great deal of truth in that doctor's words. Too many country women have never learned the safety and security there is in a drawer full of reserve garments for emergencies and sickness: just plain easily made gowns, underwear and old soft pieces of white goods. Thrifty women never destroy an old nightgown. Nobody likes to slit a gown in getting it off a sick person if it be perfectly new, but in fever cases and in dealing with very sick children the old soft garments may be destroyed without compunction. Many a life is placed in absolute danger by too much "fussing" with clothes, when an old garment could be cut or torn away easily. Accidents will happen, work will press and company may make the regular routine of washing and ironing impossible for several weeks at a time, so it's a wise idea to have emergency garments.

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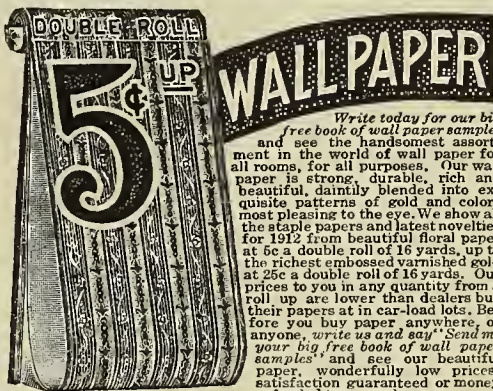
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The Sunrise of Coöperation—See Page Four

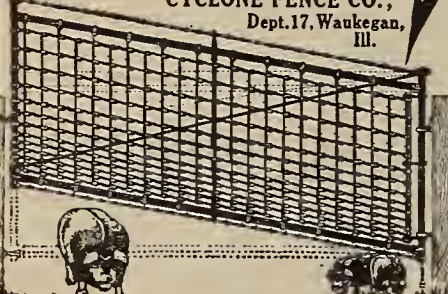
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FARM AND FIRESIDE

SPRINGFIELD, OHIO



With the Editor

OCCASIONALLY I meet a person who is skeptical as to the fact of unselfish service. I should hate to be obliged to depend upon anyone holding to such unbeliefs, in any crisis of life.

I should expect to be betrayed. I should expect to be sold out. If there was among the disciples a man who was in the habit of casting doubt on the existence of such a thing as the desire on the part of men to serve their fellows unselfishly, that disciple was Judas.

But I didn't start to preach. I was just thinking of Professor Henry. He needed a rest and so packed a trunk with summer clothes and started from his Connecticut home for the south. He meant to visit Mexico and Central America and the Canal Zone. He meant to get away from the cold of our northern winters, for the Professor is not, strange as it may seem, as young as he once was. Physically, I mean—his heart is the heart of a boy.

Now between Connecticut and the Canal Zone lies Washington. And at Washington Professor Henry found Senator Jonathan Bourne of Oregon another unselfish servant of the people engaged in a fight for parcels post—for the farmers. The Professor enlisted under Bourne, in rallying the farmers to the support of Bourne and the cause of parcels post. Here is a letter written me by the Professor. Read it. And then study what follows:

PRACTICALLY every nation has a parcels post system. The following table shows where our country stands in comparison with others.

The data given have been selected and greatly condensed from the exhaustive reports on parcels post systems of all nations, prepared under the direction of Jonathan Bourne, Chairman of the Senate Committee on Post-Offices and Post-Roads, 1911.

NAME OF COUNTRY AND AREA IN SQUARE MILES	LIMIT IN WEIGHT OF PARCEL AND RATE
United States, 2,974,159 sq. mi.	Wt. limit, 4 pounds. 16 cts. per lb.
Australia, 2,974,581 sq. mi.	Wt. limit, 11 lbs. Up to 1 lb. 12 cts. Ea. additional lb. 6 cts.
European Russia, 2,081,025 sq. mi.	Wt. limit, 120 lbs. Up to 2 lbs. 13 cts. 2 to 7 lbs. 23 cts. 7 to 12 lbs. 34 cts. Over 12 lbs. according to distance.
China, 4,277,170 sq. mi.	Wt. limit, 22 lbs. Up to 1 lb. 15 cts. 1 to 2 lbs. 20 cts. 2 to 4 lbs. 30 cts. 4 to 6 lbs. 40 cts. 6 to 11 lbs. 50 cts. 11 to 15 lbs. 80 cts. 15 to 22 lbs. 100 cts.
United Kingdom (England, Scotland, Ireland and Wales), 121,391, sq. mi.	Wt. limit, 11 lbs. Up to 1 lb. 6 cts. 1 to 2 lbs. 8 cts. 2 to 3 lbs. 10 cts. 3 to 5 lbs. 12 cts. 5 to 7 lbs. 14 cts. 7 to 8 lbs. 16 cts. 8 to 9 lbs. 18 cts. 9 to 10 lbs. 20 cts. 10 to 11 lbs. 22 cts.
Germany, 208,780 sq. mi.	Wt. limit, 110 lbs. 11 lbs., 10 mi. 6 cts. 11 lbs., any distance. 12 cts. For each 2.2 lbs. over 11 lbs.: 46 mi. 1 ct. 92 mi. 2 cts. 230 mi. 5 cts. 461 mi. 7 cts. 692 mi. 10 cts. Over above 12 cts.
Chile, 290,580 sq. mi.	Wt. limit, 11 lbs. Up to 6 lbs. On land 17 cts. By sea 26 cts. Over 6 lbs. On land 22 cts. By sea 33 cts.

JUST look this table over, and see what other countries do for their farmers, and then think what you have to do, and what you have to pay to get your parcels carried. And then think up a good, stinging, hard-hitting letter to write to your senators and congressman TO-NIGHT. If the Professor can give up his rest and his pleasure and his money to help you, can't you do something to help yourselves?

The Professor says that those who want to keep the farmers in bondage as to shipments of parcels, are pouring in petitions by the bale against parcels post. But he thinks that a good, strong, earnest letter from a farmer, written, maybe, with a pencil—and it won't do a bit of harm if it is misspelled, but written from the heart—will put more of the fear of God in the heart of a senator or congressman than a petition. And so he wants you all to mail three letters on MARCH 18th—REMEMBER THE DATE, MARCH 18th—TO-NIGHT. One to each senator, one to your congressman, at Washington, D. C., Capitol Building. Tell them you want General Parcels Post, not the Hitchcock rural fraud. WRITE NOW!

Hubert Smith

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Springfield, Ohio, March 16, 1912

PUBLISHED
BI-WEEKLY

Getting a "New Start" in Corn

A GOOD "pure-bred" strain of corn is a good thing for any farmer, and the man who has a poor strain should get a better one. But this does not mean that he should send off after an entire new start of an improved strain. By doing this he might lose a good part of a crop, even though he got the best kind in the world. Corn does not "run out" by being grown long on the same ground. On the contrary, the longer it is grown on the same land, the better it becomes suited to the conditions. It likes its old home. Neither is corn "run out" by being mixed with another strain. If the other strain is a fair one, it may even be made more vigorous by mixing. One of the best corn-growers in Ohio mixes two or more strains of good corn in the planter-box every planting. It is a law of breeding that the hybrid is apt to be vigorous. So it is with corn. The Ohio Experiment Station sent its best strains of corn about the State making tests. Some varieties did better than others. Each locality has some strains of corn best adapted to its conditions. But in almost every instance the "improved strains" fell below the farmers' own old-fashioned kinds in yield. Here is something for every farmer to ponder. Your old seed is probably better for the first year or two than any improved corn you can get. But does this mean that the "improved" corn is not really "improved" and that all this talk about corn-breeding is bosh? By no means. Much that is said in favor of better corn is true. But you can't go into the new strain (unless bred locally) all at once without taking great risks. Go into new kinds of corn—but go slow.

The De Kalb County Way

IN DE KALB COUNTY, Illinois, they are showing themselves alive to the need of better rural life by the organization of a Soil-Improvement Club. Farmers, bankers and newspaper men are united in the organization. An agricultural expert has been hired to spend his time working for and with the farmers for the upbuilding of the soil and the doubling of the crops. The committee on ways and means of the Club collected two cents an acre from the lands of the members, and thus raised \$10,000, which amount will be expended each year for three years. "Even the ministers," say the newspapers, are interested in the movement. Why the "even"? The ministers should have been—and possibly were—the first to work for the study of the improvement of our Father's estate.

If this is kept up, De Kalb County will go far, and far in the right direction. This is to warn De Kalb County that the eyes of the world are on her.

Is the Soil Amoeba Deadly?

A SUBSCRIBER in Texas writing of the matters once discussed in our editorial, "White Corpuscles in the Soil," calls the newly discovered soil amoeba—which lives on the soil bacteria as the white corpuscles in the blood live on disease-causing bacteria—"the deadly amoeba" and speaks of the desirability of finding some way of exterminating the organism. To be sure, it would be a fine thing if you and I could get rid of our amoebæ and otherwise tidy up our soil so that the nitrogen-fixing bacteria could multiply without limit while our neighbors went along in the old way—for a while, at least. But "there is a soul of goodness in things evil," and the amoeba may be quite as useful as the bacterium. Out in Colorado there are soils which are so full of

nitrates that they will not grow crops, the result, probably, of conditions permitting the bacteria to get ahead of their drawbacks and enemies. We shouldn't like too much of a good thing bestowed on us in that way. And again, if the crops on all our farms were supplied by the bacteria with just the most advantageous amount of nitrogen—what the scientists call the optimum amount,—we should all grow huge crops which would oversupply the world with food—actually overload the table—to the detriment of all of us who sell it—for a



LET him fish. It is boyhood's immemorial right; for it is spring. Do not burden him with the protests of the Society for the Prevention of Cruelty to Worms, or of the Piscatorial Rights Association. Those will come to him later in life, anyhow. Go with him if you can. Doubtless, as one poet says, he prayeth best who loveth best all things both great and small; but this does not involve assent to the dictum of that other poet to the effect that the poor beetle that we tread upon feels corporal pangs as great as when a giant dies. Pain is a matter of nerve development, and not of size. Probably the pangs of the worm are greatly overestimated by most of us; and as for the fish, why, if it hurts him very much, does he so promptly return to bite the very hook from which the fisherman has just removed him and thrown him back as being under legal size? He is lacking either in feeling or memory. Probably both. Anyhow, trouble not the hero of the picture with these subtleties. Let him fish; for it is spring.

In the spring the dusky bullhead woos himself another mate;
In the spring the small boy's fancy lightly turns to thoughts of bait.

while, at least; and finally, owing to the constant supply of nitrogen from the air with no balancing supply of phosphorus and potash, our soils would become unproductive—exhausted. We should simply have a better bucket for drawing the water from a cistern with no inlet, a more effective system of checking out the funds in a bank in which no deposits were made.

We should finally starve from the exhaustion of mineral plant-food.

It is probably well that we can only bend the barriers of nature. If we could break them down, we should do so—and thereby ruin a reasonably well-balanced world.

Tax the Thing You Don't Want

A SOUTHERN planter has advanced the proposition that the best way to cut down the cotton crop, and thereby boost the price, is to place a good stiff tax on every acre planted above ten by any one planter. This would work—if there were not the danger of stimulating production in other countries. Should this occur to a dangerous degree, we should find ourselves facing real competition outside the United States. Perhaps the best way to cut down the cotton area is to show the southern planters other crops which can be made more profitable. Drive out cotton with something better. But such a tax would certainly cut down cotton-planting. Taxing houses retards house-building. Taxing dogs—where the tax is collected—decreases the number of dogs. Once a pasha of Egypt taxed date-trees, with the result that date-trees were cut down. Anything that can be made scarcer by taxation is made scarcer by it. About the only thing that is made cheaper and easier to get by taxation is land.

The Everglades Imbroglio

IN OUR "Farmers' Lobby" we publish in this issue the first really illuminating account of the Everglades disturbance in the Department of Agriculture of which we have any knowledge. In it our readers are informed of facts from which we deduce these conclusions:

1. There has been no ascertained graft or dishonesty in the Department, but there have been regrettable irregularities and some very unwise relations between Department activities and real-estate operations.

2. Secretary Wilson has acted fairly, honestly and wisely on such matters as have been brought to his attention; but one gets the impression that his hand on the reins of his great office is not as firm as it should be.

3. Investors in Everglades lands have good reason to feel uneasy. The whole matter of the reclaimability of this huge swamp is still involved in doubt.

MORAL: After lands are ready for the plow—or at least for the ax and saw—is soon enough for the payment of money, unless one is of a sporting disposition and likes to bet on the other man's game. Such individuals are born every minute, and will soon begin to run up every brook in this broad land—including those in the Everglades.

February in Washington

A FRIEND at Brush Prairie, Washington, writes under date of February 11th: "We are having some rain, but the weather is warm. Green grass growing. Meadow-larks singing. Pussy-willows all out. Some of the farmers have their plowing all done ready for seeding. Everyone seems to think that we are to have a good summer." The first thought is that most of us would scarcely expect green grass, meadow-lark songs and pussy-willows in

early February in the latitude of Minnesota—though we all know about the tapering off of winter toward the end of the Oregon trail. And then comes the suggestion of the many dear things we all have in common. The song of the meadow-lark is the same blithe roundelay from Florida to Washington—or if not quite the same, equally joyful—and the wand of the pussy-willow waved over green grass and plowed fields gives us the kinship of common needs and common joys, from the Gulf to the last settler's house in the valley of the Peace.

Let us all strive, too, for that last bit of optimism, "Everyone seems to think we are to have a good summer!"

How We Whipped Them

The Story of the Rebellion of the Farmers of the Middle West Against the Grain, Coal and Lumber Trusts. A Study in Coöperation
By Edward G. Dunn

MY NAME is Edward G. Dunn, and I live in Mason City, Iowa. I am secretary of the Farmers' Grain-Dealers Association of Iowa. This seems like a very prosaic name, occupation and residence, but my work for nine years contains a lesson for farmers everywhere—a lesson in rebellion, in revolution and in knowledge of their own strength. Therefore, I am telling it to the farmers of the United States. If they take to themselves its lesson, and apply it to its fullest length, the day of their exploitation by middlemen and organized greed will soon be over. They can run their own affairs and the affairs of this nation if they only will to do so.

I have had a very wonderful experience for the past nine years, for which I have to thank an attack of typhoid fever. I was a student at Iowa City when I came down with the fever, and I came home to the farm in Mount Vernon Township, Cerro Gordo County, Iowa, to get well. I got well of the fever, but I have never seen the inside of the university since. I began studying the grain situation from the standpoint of the farmer, and I got into a fight like that of Wallace with the oppressors of Scotland—a fight which made life strenuous for me from that day to this. Like Wallace, when I drew the sword, I threw away the scabbard—I have never needed the scabbard since.

Our farm is near the village of Burchinal, on the Chicago Great Western Railway. It lies a few miles nearly south of Mason City, a town of fifteen thousand or so people. It is a rich farming country, cut up by railways and dotted with towns. A very few miles east of us the Iowa Central Railway, now merged with the Minneapolis and St. Louis, runs north and south. The Iowa and Dakota division of the Chicago, Milwaukee and St. Paul runs east and west through Mason City and only a few miles from us. The Chicago and Northwestern cuts across to the southeast from Mason City and east of the Iowa Central from us. And the Des Moines Short Line runs south to Des Moines parallel to the I. C. and a little nearer to us. All the roads have their stations, and all run or connect in to Chicago, which is our terminal grain-market. You see, we are well supplied with railways and markets.

"Why Don't We Get the Large Prices?"

East and south of us, on the Iowa Central, is the town of Rockwell. A farmers' elevator was started there in 1889—the beginning of the farmers' elevator movement in Iowa, and the mother elevator of the 337 farmers' elevators in Iowa, and one of the first of the 2,500 farmers' elevators in the grain-belt States of Indiana, Illinois, Iowa, North and South Dakota, Kansas, Nebraska and Montana. I do not believe that Bunker Hill Monument is a thing of more historic interest than the old farmers' elevator at Rockwell. There the rebellion began. There the grain-market's battles of Lexington and Concord were fought.

While too weak to work, and too well to do nothing, I pondered on the difference between prices at Rockwell and Burchinal. The Rockwell farmers' elevator was paying from three to five cents a bushel for oats more than we could get at Burchinal.

"Why can't we get as much for our grain as the farmers' elevator at Rockwell pays?" I asked one of our grain-men.

"Difference in freight," said he. "The I. C. gives better rates—it's nearer by that line. You can't do anything with a railroad, you know, Ed!"

I looked into the matter and found that the rates to the two towns were the same. "Say," said I when next I saw the grain-buyer, "you are mistaken about the rates on grain from here, and from Rockwell. They are just the same. I looked it up."

"Well," said he, "our grain over here ain't as good as it is around Rockwell. They've got bottom-land there—stronger land—and their grain grades better."

"But," said I, "that can't be it, for when we haul over there, we get as good prices as they do. Why is it?"

"Ed," said he, "you can go to hell! It's none of your damned business!"

I made it my business. Someone was robbing us of from three to five cents a bushel on our oats, and correspondingly on corn and other grains. This meant from \$2.50 to \$5 an acre a year on our land. It meant that someone was getting as much out of our lands by robbery as we could get by renting it. It meant that above our dominion over our own farms there was an overlord who made as much out of it by pure robbery as we made by owning it. Wherever we neighbors met that summer—by the roadside, over the line fence, in town, and after church on Sunday—we talked the matter over.

We knew that our grain was sold too low, and we believed that we had to pay too much for such things as lumber, coal, twine, and the like. Afterward we found that we were paying for lumber from \$7 to \$12 a thousand more than it was worth; two and one-half cents to four cents a pound too much for twine, and \$1.25 a ton and upward too much for coal. At that time we simply felt in a vague sort of way that we were being robbed going to town and coming back—and we rebelled. As Emerson says about the battle of Lexington, the embattled farmers fired the shot heard around the world, or, at least, around the Board of Trade. We organized the Burchinal Farmers' Elevator Company, on July 26, 1903. Its first, last and only president was and is Mr. I. R. Kirk of Mason City,

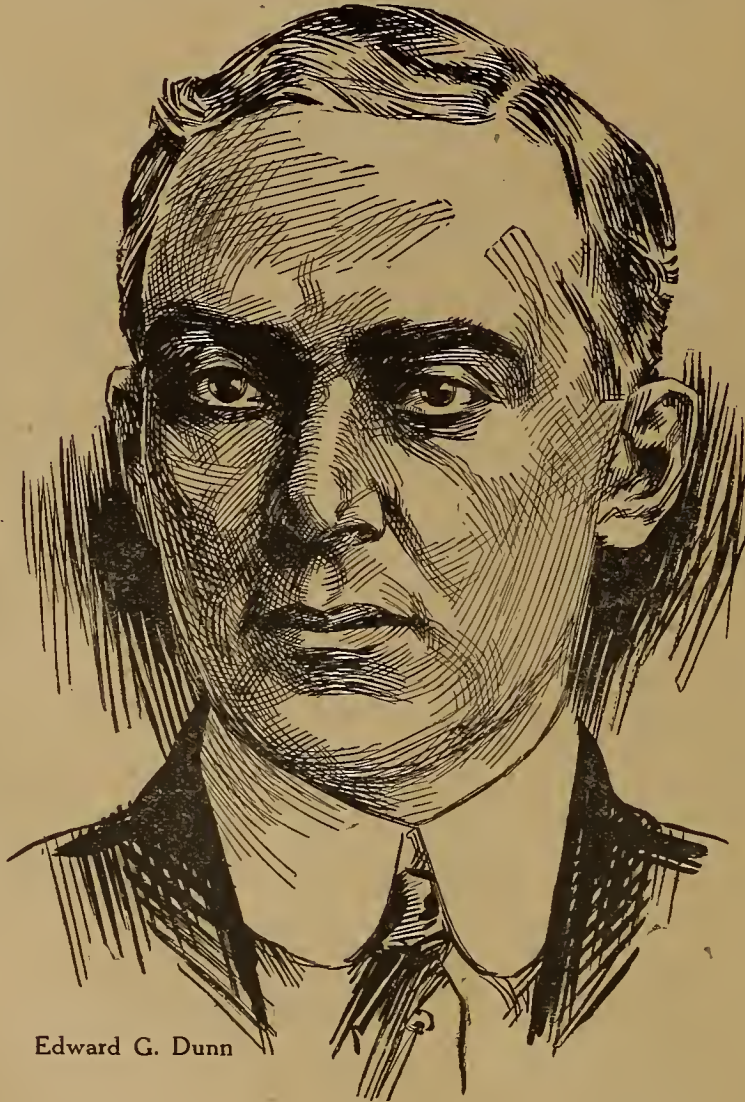
WHENEVER the unorganized American farmer is told of the success in coöperative dairying, egg-handling, pork-packing and a dozen other lines in Denmark; coöperative store-keeping in England; coöperative banking in Germany, Austria and most of continental Europe, he says, "Well, that may all be, but the American farmer is different." And when he is told of coöperative successes in fruit-marketing, trucking, and the like, in America, he is still skeptical. There is a story of a New York farmer who refused to coöperate with his neighbors. "As for us," he is reported to have said, "in this neighborhood we've always fit, and we always will!"

In this story by Mr. E. G. Dunn, we shall show the foolishness of this over-conservatism. We shall show how the plain farmers of the Middle West have succeeded in coöperation against odds which are not likely to confront any coöperative effort in the future. It is the history of the greatest coöperative success in American history. And these Mid-Western coöperators have only begun. They have learned wisdom and found out the necessity of wise leadership and mutual trust, and they will go far, or we mistake their character. In this and the four following issues this great lesson in farm salesmanship will be unfolded.

Iowa, a banker with landed interests among us. You see, the bankers are not to be counted out in a fight of this kind—always. George Moorhead of Mt. Vernon was, and still is, its secretary. The directors were farmers. I was well enough by that time to take the management of it, and did so, when it began business.

Poor, innocent Reubens—we didn't know what we were up against! Those who know nothing fear nothing, and we were pretty brave.

We had been told where to go when we asked questions, and I am sure our chuckling oppressors and competitors thought us headed for just that warm place.



Edward G. Dunn

Things soon began to dawn on us. We tried to buy one of the elevators already erected in Burchinal, and found them held firmly not for sale. Well, it didn't take such a lot of money to build one, and we decided to do that. Then the first shot was fired back at us—we were told by the officials of the Chicago Great Western that we couldn't have a site for our elevator. They said there were already two elevators there, and that was enough!

The Railroads Knew Why

The bitter irony of the statement that there were elevators enough is clearer to me now than it was then. For now I know how well these railway officials knew how we were being robbed. They knew all about it. For the railways had gone into a nefarious scheme with the grain-men to make secret profits out of us, and to keep the grain-buying business in hands that were ready to pick our pockets. I may as well tell you what this scheme was now, while we are waiting for our elevator site.

So far as I know, the systematic building of the grain trust began in 1889, when the Peavy Elevator Company of Minneapolis, through its general manager, Mr. Charles Peavy, made a contract with the C., St. P., M. and O. Railway and the Union Pacific by which the Peavy concern received a cent a bushel on all grain originating on those systems. Just get that in your minds. On every bushel the Peavy concerns shipped and paid freight on, it got a cent back in cash. If a farmer loaded his own car and shipped it, the Peavy Company got a cent a bushel on it. If an opposition elevator tried to give the farmer his proper price, the Peavy concern got its cent a bushel all the same. If it originated on either of those lines, it made a profit to the Peavy Company. How could anyone else do business against a competition that could make money on every load that got away from it, as well as every load it got itself? This thing was secret; and we farmers at Burchinal did not know what we were up against.

We could feel something cruel and unjust crushing us, and we could see the sneers on the faces of those who were against us; but what it was we did not know. Perhaps it is better. If we had known it all, I wonder if we should have had the courage to fight as we did.

That same year that Charles Peavy signed that contract for the Peavies on those two roads, the first Interstate Commerce law was passed, and was the making of the Peavy concern. F. H. Peavy was the owner of the control of the company, and became, through his numerous companies, which came to occupy a whole

floor of the Grain Exchange Building in Minneapolis, the great secret rebate-taker of the roads on which he operated. That one cent a bushel made Peavy great—as it made a lot of poor farmers small. It ground us between the upper and the nether millstone.

For the secret-rebate disease of a cent a bushel spread over all roads of which I have any knowledge. Charles T. Counselman of Chicago got the license to crush us on the Rock Island system. The Northern Grain Company had it on the Northwestern. The Richardson concern had it on the Santa Fé. The Armours were favored by the plum on the C., B. and Q., and so on.

Through the tremendous power they thus acquired they controlled the terminal elevators to which all grain has to go in the big markets. We do not know of one they did not control. At Minneapolis the Peavy group controlled most of them. In a year from the time the scheme was started the grain trust composed of its beneficiaries was in full blast.

They did not put the so-called "opposition" elevators out of business. They let them run, and whipped them into line on prices for grain. They let them run so it would look to us farmers as if there was real competition. Later I shall tell you how they managed this. Now, I want you to realize why it was that the Chicago Great Western Railway officials "kindly but firmly" told us that there were enough elevators at Burchinal. The Farmers' Coöperative Elevator movement was giving trouble. Over at Dougherty, in the same county with us, the farmers were stirring and asked for a site. The Northwestern refused them, as the Great Western refused us. The Dougherty people got Senator Gale of Mason City to introduce a bill in the legislature forcing railroads to grant sites. This was after the matter had been held up over a year. This bill scared the railroads, and they went to the Dougherty people and asked a compromise.

"We will give you this one site," said the railway people, "if you will withdraw that bill. If you go on with the bill, we'll fight you to a finish, and whip you!"

The Dougherty farmers compromised. They withdrew the bill and were allowed to build their elevator.

Our Working Methods Were Practical

We managed rather differently. Mr. A. B. Stickney was the builder and the president of the Great Western and one of the great railway men of the nation. Mr. Kirk, our president, succeeded in getting an audience with Mr. Stickney and explained our claims and our desires. Mr. Stickney was a big, a fair and an honest man personally. It seems to me that in our relations with Mr. Stickney there is a great lesson in the relations between the great corporations and the people. If in some way personal responsibility could be brought home to presidents and general managers for all that is done under any system adopted, and personal knowledge required, many of the damnable things done would never be committed. There is a sort of false and pretended ignorance on the part of corporation managers which enables them to say to themselves and to the courts, "I did not know this thing."

We brought actual knowledge home to Mr. Stickney, and won.

He could do injustice through his underlings, but when it came to strangling us with his own hands, I think his fine nature revolted. Anyhow, though he must have been a party to the system which was robbing us, when it came to saying "No" to us on a matter in which we were clearly in the right, Mr. Stickney could not say it.

He gave us our site.

And then things seemed to come our way with a rush.

As soon as we received permission to build on the railway switch, the Iowa Elevator Company, which owned one of the elevators in Burchinal, came to us and sold their house for \$2,900, which was less than its value.

We took over the lumber and coal business with the grain trade. I went as manager, my heart beating high with exultation.

You may imagine how I felt. Here were men with money and influence, heading large corporations and organizations. We were established for the purpose of fighting these very men. So I may be excused for being a little elated when I was installed as manager of the new farmers' elevator.

On the morning of the nineteenth of August we were ready for business.

We were ready, we thought, to tackle all sorts of propositions having anything to do with the grain business. The fight seemed to be over.

Poor ignorant school-boy and poor deluded grangers! As well say that the Revolution was over when the British retreated from Lexington and Concord! The fight had not even really begun. [CONTINUED NEXT ISSUE]

How Large Should a Seed-Potato Be?

By L. R. Waldron

SPEAKING generally, the yield of a crop of potatoes increases as the weight of the seed-tubers increases, but it is quite manifest that the increased yield resulting from the large tubers may be overbalanced by the increased cost of seed per acre. By planting very large seed, one might find the profits absorbed by the excessive amount of seed-potatoes used.

To explain the causes of larger pieces of seed producing a greater yield is not easy. Using the energy of the sunlight, the living cell, in the presence of chlorophyll or "leaf green," decomposes the carbonic-acid gas of the air and, uniting with water, forms starch. During the time of tuber formation the starch which is manufactured in the leaf is carried over to the growing tuber to form a part of the growing tuber. Thus the potato yield of each individual hill is directly dependent, "other things being equal," upon the amount of green tissue in the plant.

The large mother tuber starts a larger number of stalks than does the small mother tuber. Moreover, the large tuber contains a greater amount of food material, and it is comparatively easy for the young plant to change this organized food-material of the parent tuber over into living tissue of the young plant; apparently easier than for the young plant to build up its tissue from the unorganized material; that is, from the raw plant-food so commonly found in the earth and air.

The large tuber then starts an increased number of stalks and pushes them along with greater vigor than does the small seed-tuber. The plant growing from the large tuber has an increased amount of leaf surface, or an increased amount of "leaf green," which is so necessary for the formation of starch. In addition to these two factors, it has been claimed that potato-tubers act as water-storage reservoirs during the growing season. If this is the case, then the large tuber would be an added advantage, especially during the droughty periods, or in dry regions.

Will the Seed Cost More?

Working against these favoring tendencies of the large parent tuber is a contrary effect. Along with an increased number of stalks per hill, there is a tendency to produce a larger percentage of small tubers per hill. This is very often not of great importance.

The question of the increased cost of seed when large tubers are planted is a factor of importance, but of a different nature than those which have just been discussed.

A number of experiments have been carried on regarding the comparative value of different sized pieces of seed-potatoes. As an average of a total of nearly one hundred experiments, it was found that pieces of seed cut to two eyes yielded 14 per cent., or 15 bushels, more than pieces cut to one eye; that quarters yielded 15 per cent., or seven bushels, more than pieces cut to two eyes; that potatoes cut in halves yielded 6 per cent., or 5 bushels, more than potatoes cut to quarters; but that potatoes cut in halves yielded 8 per cent., or about 8 bushels, more than when whole tubers were used. These results were for the net salable crop per acre, after deducting the small tubers and the value of the seed.

Without regard to the value of the seed, there was found a steady increase of yield from the one-eye pieces up to the whole tubers, a total increase of yield amounting to 62 bushels per acre. The value of seed necessary to plant the whole-tuber plots was too great to allow the increased yield from the whole tubers to have any net value.

The Climatic Influences

It seems reasonable to suppose that the difference in yield from large and small pieces of seed would be more pronounced under certain climatic conditions. Where the conditions for growth of potatoes are favorable, it is probable that the difference in yield would be less than where the conditions for growth are rather unfavorable. If the sunlight, for instance, is somewhat deficient, then it may be the simpler thing for the plant to develop its new tissue from the large mother tubers than for the plant from the small mother tubers to produce an equal amount of tissue from the plant-food of the soil and from the gases of the air. Doubtless this rule would hold true under other unfavorable growing conditions.

It is possible that under certain unfavorable conditions the large tubers, especially whole ones, do not produce the increased yield which the amount of seed would apparently warrant. It is a commonly observed fact that when the season is dry, and generally in semi-arid

Where potatoes are grown in a commercial way, the use of machinery tends to limit the size of seed-tubers that can be used. However, when planting is done in a small way, as very many farmers do it, the very large tubers may be planted when it seems desirable.

Experiments have been carried out at Dickinson, North Dakota, for three seasons regarding the comparative value of large and small tubers for seed. In 1908 two plots were seeded at the rate of 34.5 and 4.7 bushels of seed per acre. Whole tubers were used for the two plots, those for the heavier planted plots being considerably larger. The small tubers weighed about one ounce apiece, while the large ones weighed seven ounces apiece. The small tubers would be considered below marketable size, but of about the size that is very commonly saved out for seed by farmers, especially when the spring prices are rather high. The yield of the marketable potatoes from the plot planted with the large tubers amounted to 163.4 bushels per acre, while the marketable potatoes planted with small tubers yielded 66 bushels per acre.

The data may be tabulated as follows:

Kind of Seed	Seed per Acre Bushels	Yield Marketable	Yield Culls	Value per Acre of Crop, Less Cost of Seed
Large	34.5	163.4	17.2	\$58.41
Small	4.7	66	6.2	32.73

The season was reasonably favorable, the precipitation being above the normal. The large tubers were valued at 75 cents per bushel at planting-time.

In 1910 this experiment was repeated. In this experiment the amount of seed used per acre was considerably increased in quantity, both for large and small tubers. The "small" tubers, in fact, could have been marketed had there been a good demand for potatoes.

One Might Think the Seed Wasted

Seventy-six bushels of seed per acre was used for the plot planted to large tubers. This is an enormous amount of seed to use, and one would think that seed was being wasted when planted so heavily. The results, however, seem to justify the use of the large tubers. The following tabulation gives us the results, in correspondence to those secured in 1908:

Kind of Seed	Seed per Acre Bushels	Yield Marketable	Yield Culls	Value per Acre of Crop, Less Cost of Seed
Large	76.5	150	12.3	\$130.20
Small	13.6	82.9	6	80.32

The season of 1910 was reasonably favorable for potatoes, as the yields indicate. In 1911 the results were:

Kind of Seed	Seed per Acre Bushels	Yield Marketable	Yield Culls	Value per Acre of Crop, Less Cost of Seed
Large	64.8	72	23.9	\$19.68
Small	9.7	65.7	11.5	59.87

[CONCLUDED ON PAGE 23]



Large tubers used for seed yielded 34.5 bushels of seed per acre, small tubers, 4.7 bushels. The increase in favor of large tubers was 247 per cent. The increased value per acre, deducting cost of seed, amounted to \$27.68. This picture shows the relative yields

districts, the mother tuber retains its form and solidity until the crop is harvested. In very dry seasons when the amount of moisture to produce a crop approaches the minimum this point is very marked.

At Dickinson, North Dakota, in 1911, for instance, the mother tuber when not cut was often mistaken for part of the crop and picked up as such; a closer view, of course, showed the error, but the similarity between the mother and daughter tubers was very striking.

The fall rains coming after the crop had practically matured, but before digging, started growth anew in the mother tubers so that at digging-time young shoots had begun to form, and doubtless another crop could have been grown from some of the mother tubers had they been transplanted and given fair conditions. It is likely that the dry conditions prevented in some measure the utilization of food stored up in the parent tuber.

The Home of the Perfect Spud

By Florence L. Clark

TO SEE the native heath of the perfect spud that has captured sweepstakes prizes at the Colorado State Fair and the first prize at the last Omaha Corn Exposition, take the stub line of the Denver Rio Grande out of Glenwood Springs, Colorado, some summer morning and travel twenty miles up the Roaring Fork River to Carbondale. There will be revealed to you what amazing things can be done with the potato under just right soil and climatic conditions by the application of scientific methods of culture.

Carbondale itself is a brand-new village of some five hundred souls. Around it rise flat and wide thousands of acres of broad mesa land red as the mountain-sides whence it has been washed. From the north toward Carbondale rushes the Crystal River; from the west hurries the Roaring Fork. They flow together near the village. Just back rises Mt. Sopris, over fourteen thousand feet high and snow-crested the year around. Down its sides tumble scores of swift mountain streams. The two rivers and these many creeks supply the mesas with water abundant and to spare. Every farmer is his own irrigator, runs his own ditches and regulates his own supply. No one needs to wait for his neighbor when it is time to turn the water onto the potatoes.

A Beautiful Home

The altitude of the region is six thousand feet. This elevation is the same as that in which the wild potato grows in Colorado. The same altitudes produce like climatic conditions. What was good for the wild potato has proven good for the cultivated varieties.

Scientific experimentation with the potato has shown conclusively, the Carbondale potato-grower will tell you, that the spud thrives best in a cool, dry climate where uniform growth is assured. The soil at Carbondale is peculiarly adapted to the culture of the potato. The abundant water is a splendid asset. Yet neither in water nor soil lies the prime reason for the quality

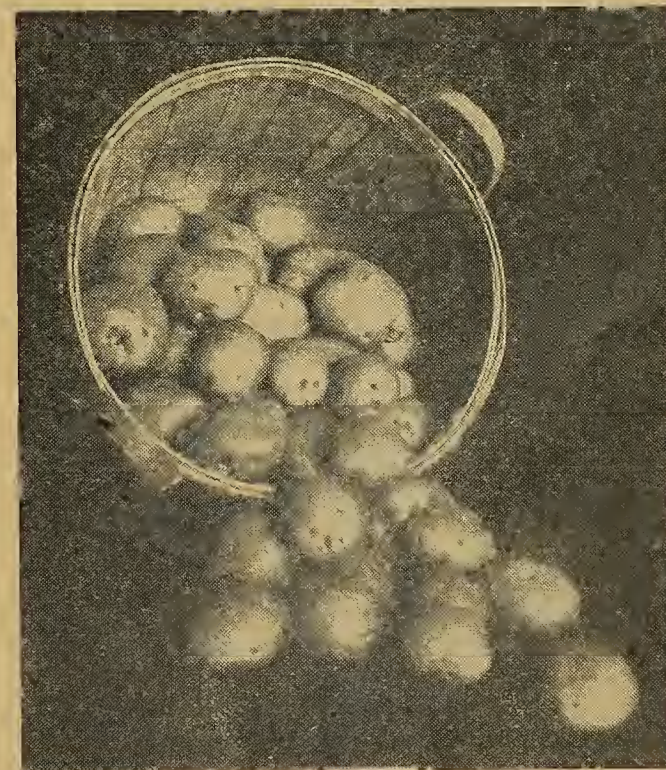
and quantity of the Carbondale potato. The equable climate in the opinion of all the growers deserves the especial credit. Sunshiny days of moderate, not hot, temperature are followed by cool nights throughout the whole summer. The plants under these conditions grow evenly and steadily, and the tubers develop with sound uniformity.

A potato-bug has never yet invaded the valley to torment the growers. By scientific methods of culture and careful seed-selection the potatoes are approaching nearer and nearer perfection. The yield per acre is also on the increase. This the Carbondale growers are safeguarding for the future by a three-year rotation of crops. Most of the farmers have but a third of their land in potatoes each year. Oats and alfalfa are rotating crops. It is quite customary to sow the two together the first year, and grow alfalfa alone the second. The three cuttings of alfalfa give a yield for the whole season of five to seven tons per acre.

Large Yields Characterize These Farms

As high as three hundred sacks, or five hundred bushels of potatoes, have been raised to the acre on several farms in the valley. Yields of three hundred and fifty bushels are common. What returns such a yield brings the Carbondale farmer is learned from the report of Charles Mow of his crop for last year grown on the Big Four ranch near Carbondale. The figures are not exaggerations, but guaranteed facts. Mr. Mow had thirty-nine acres in potatoes. He dug four hundred bushels to the acre from his field. From the sale of these he realized a profit of \$140 an acre, or \$5,460 for the whole.

The Carbondale "Perfect Peachblow" is now without a peer on the market. It brings the top price. It is used in best eastern hotels, on ocean liners, in the diners of the New York Central, the Rock Island, the Missouri Pacific and the Denver Rio Grande lines and the Harvey Eating Houses of the Santa Fé. During the last two



"Without a peer on the market"

years large quantities of this variety have been shipped as seed-potatoes into Idaho and sold there at fancy prices in the new potato-growing sections.

The growers at Carbondale are organized into a protective association known as the Roaring Fork Potato-Growers. The object of the organization is to build up and protect a reputation for putting best goods on the market. The members under penalty of fine are required to select, sort and label their potatoes before shipment according to set rules laid down by the association.

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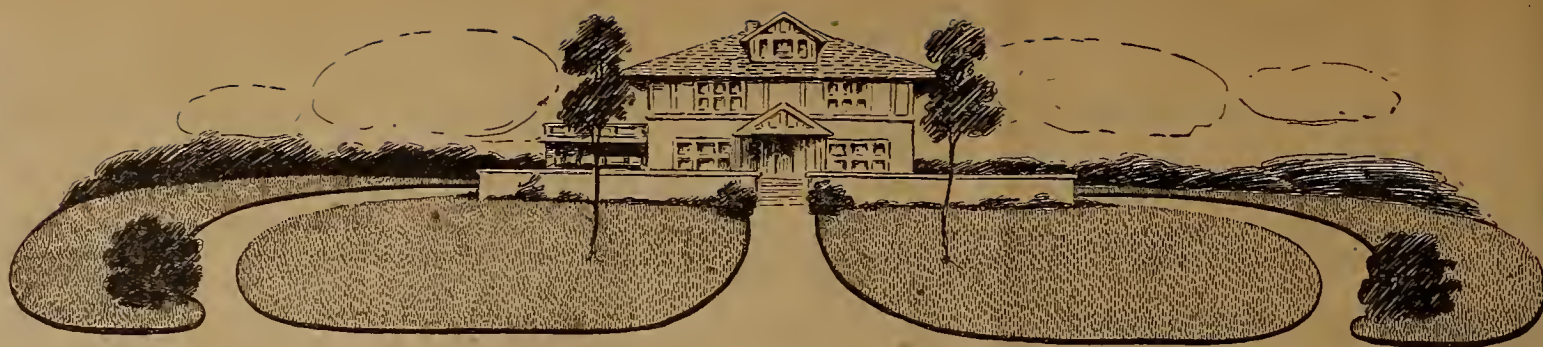
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Making the Farm Lawn Attractive

NOTHING adds so much to the attractiveness of a country house, be it large or small, as a neat, well-kept lawn. It is the setting for the home, and without it everything seems incomplete. It is a picture without a frame. The picture may be very lovely, but until the frame is added we are not satisfied. I have seen some houses that needed only a small lawn to make them seem almost perfect. Without it they gave one that sense of being unfinished, which always detracts from our enjoyment of anything.

By Sylvanus Van Aken

About many country homes I see great flower-beds, brilliant with color, but of none of that velvety green sward which is so beautiful in itself, and which adds such a charm to the humblest cottage, as well as to the costly residence, and I wonder if the owners understand what a mistake they are making in giving up all the ground to flowers. Flowers are beautiful, and no home should be without them, but they should never crowd out the lawn. Its cool, refreshing color rests the eye and gives an air of repose to the place which is eminently homelike in its influence. Passers-by often pause to look at it and say, "How pretty it is!" while the brightest bed of flowers would fail to attract their attention. A few good shrubs are desirable additions to a lawn if there is room for them, but flower-beds scattered about it detract from its beauty instead of adding to it.

There are lawns and lawns. Some evolve themselves, but these, while better than none at all, are never satisfactory. They always lack that depth and richness of turf which is to a good lawn what the pile is to velvet. The only way in which a really fine lawn can be made is to begin properly and work along proper lines until you have that thing of beauty which will be a "joy forever," if it is given proper care.

How to Assure Success
The first thing to do is to grade the yard, and put the soil in shape to support a strong, fine growth of grass. This may be done by spading or plowing the ground. If small, better work may be done with the spade than with the plow. If large, the plow is advisable, because it will save both labor and time. The future of it depends largely on its beginning. If a good beginning is made, success will be attained. If not, the result will be far from satisfactory. Spade or plow the soil to a depth of at least a foot. Make it fine and mellow, and work into it a liberal quantity of some fertilizer like bone-meal or guano. I do not advise manures from the barn-yard, for the reason that they almost always contain weed-seeds, and all weeds ought to be kept out of the lawn from the start. If they germinate there at the time the grass is taking root, they rob it of nutriment that should be held in reserve for it, and because of the ease with which the grass is uprooted during its early stages of growth, it is not desirable to do much pulling of weeds. Much the best way is to keep them from getting a foothold there. The commercial fertilizers will never bring weeds into your lawn. Therefore they are preferable.

If the soil is heavy, like clay, it is a good plan to add sand, ashes, old mortar—anything that has a tendency to lighten it and make it more open to the influences of air and moisture. Mix these in with the fertilizer used at the time you pulverize the soil for the reception of seed. It is a good plan, also, to spade or plow your lawn in fall, if possible. If the soil is turned up and left exposed to the action of the elements over winter, the hard lumps of earth become disintegrated, and the work of putting the soil in proper shape for seeding can be done more easily in spring, as soon as the water from melting snows and early rains drains out of it, than is possible if work begins in spring. It can be done better, too, and earlier in the season. If the soil is not naturally well drained, see that proper drainage is given. You cannot expect a fine sward where water stands long at the roots of the grass. In yards of ordinary size, two lines of six or eight inch drain-tile, starting from the two back corners of the lot and running across it diagonally until they meet in its center in front, will be found amply sufficient to drain it well. On larger grounds it may be necessary to use more. This must be determined by personal examination.

You cannot make your soil too fine and mellow. Work it over and over, until it looks as if it might have been intended for a flower-bed. This cannot be done until spring moisture has drained out of it thoroughly and the weather has become warm, so that the sun has a chance to do its work on the soil. This being the case, it will be understood that nothing is gained by beginning work too early in the season. Grading must be intelligently done if it is to be satisfactory. A perfectly level surface is not desirable. There should be a gentle slope in all directions from the house. It may be found necessary to add some soil here and there, in order to secure an even surface. If there are knolls, have them cut down. What you take away from them may be sufficient to fill up all depressions. Be sure to do all the work of filling in or cutting away before seed is sown. This work can be done advantageously now, but it cannot later on. If the soil can be spaded or plowed, pulverized and leveled before the rain, your lawn will be greatly benefited thereby, because the rain will help to settle the soil, and if it settles unevenly, as it is quite likely to do, because of a lack of compactness in some parts that exists in others, the trouble can be remedied before seeding. In other words, the man who does his work on time will succeed.

The best seed for a lawn is composed of seeds of several kinds of grass which have the habit of spreading or "stooling" freely, thus forming a thick mass of leaves close to the soil, with a proportion of white clover, whose creeping habit makes it valuable in helping to completely cover the soil at an early period in the existence of the lawn. In buying seed, buy only of such dealers as you know to be entirely reliable. Some who have more "enterprise" than honesty claim to sell mixtures of seed for lawn purposes quite cheaply which are equal in all respects to the more expensive mixtures advertised by the firms whose honesty is unquestionable, but "be not deceived thereby," for the cheap mixtures are generally made up of inferior kinds and not infrequently contain weed-seeds. It is better and also cheaper in the end to pay a little more and get the best article. It should be borne in mind that in order to produce the most satisfactory results seed should be sown thickly. The estimate of those who have had large experience in making lawns, and who have been successful, is that it is advisable to sow at the rate of four bushels of seed to the acre. Ascertain the amount of land in your yard, and buy as much seed as is required under the above estimate. There is nothing gained by attempting to economize in quantity of seed used. A thinly seeded lawn will be lacking in depth and richness of turf, while a thickly seeded one will have a velvety appearance from the start.

It may seem to be a very easy thing to sow a lawn properly, but it is not. The seed used is light as air almost, and a slight puff of wind will be sure to blow it where it ought not to go. Therefore, select a perfectly still time in which to sow your seed. Quite early in the morning is generally the best time in which to do this work. Begin at one side and sow across. Then return to that side, and sow across again, over another strip. Do this until you have been over the ground. If you have any seed left, it is a very good plan to sow across the lawn at right angles with the first sowing until you have exhausted your supply. By doing this you make sure of scattering the seed more evenly, and of not missing any places. The seed is so very fine that you must judge whether you are doing the work properly by observing it as it leaves your hand and settles. There is nothing to be seen of it after it strikes the soil. Lawns should be rolled well after sowing, with a heavy iron roller, but this is not practicable in a small yard; however, some substitute for such a roller may be found that will help to make the soil firm and compact, and press the seed into the earth. It requires no covering. If nothing better is at hand, go over the ground with a hoe, pressing the blade down squarely in such a manner as to make the surface compact as possible everywhere. This may be slow work, but it is the work that "pays." It should be borne in mind that lawn-making is not done every year, therefore one can afford to do it carefully.

The lawn should not be mown until the grass has grown to a height of at least four inches. To cut it at an earlier stage of growth is to seriously injure it. Have the mower set so that it will not cut very close to the roots at first. The aim is to merely clip the tops of the plants, and prevent their making more upward growth. This done, they "stool" out and thicken at the roots, and in this manner is laid the foundation of a sward that will prove satisfactory. Too close cutting injures the crown of the plants—something that should always be avoided. The frequency with which mowing is done should depend on the growth of the grass, which depends largely on the season. In a moist, showery season it will grow rapidly, consequently it will be necessary to cut it much oftener than in a dry one. It is also much safer to cut it oftener in such a season than in a very dry one. If there is a drought, let the clippings remain on the sward as a mulch and a protection of the roots, to some extent, from the hot sun. In cities and villages where connection can be had with some system of waterworks, the lawn can be sprinkled daily, and the sward kept rich and green all through the season, but it is hardly practicable to do this where the water-supply is drawn from well or cistern. When a good turf is secured, lawns stand a summer drought pretty well without watering, unless the soil of which they are made is one that dries out very easily.

A Neat Lawn with Well-Arranged Trees

The beauty of a lawn depends largely on the neatness with which it is kept. Dead leaves, rubbish and refuse of all kinds should be kept from disfiguring its surface. Lawn-rakes are made of bent wire which take up everything that may be scattered over the grass without in the least injuring its roots, as an iron-toothed rake will. They cost but little, and everyone owning a yard should provide himself with one. A lawn-mower should, also, be procured that will do its work neatly and well. For small yards one with a narrow cut answers all purposes, but on larger grounds one cutting a wider swath is advisable, as it greatly expedites the labor of taking proper care of the lawn.

Some persons in the fall spread coarse manure over their lawns under the impression that the lawn will be greatly benefited by the application. Such, to my notion, is not the case, however. The fertilizing elements of the manure are dissipated, at least to some extent. Much of their value will be wasted in winter by the action of the elements. Little nutriment from the manure reaches the soil, and as a protection the manure amounts to nothing under my conditions in New York. Wait until spring, and scatter bone-meal or some such concentrated fertilizer over the soil as soon as the grass shows a tendency to begin to grow. The results will amply pay you for your work.



Keeping Accounts for the Government

By George H. Dacy

FOR some years farmers all over the country have been accurately accounting the various operations performed on their farms and making weekly reports to the United States Department of Agriculture. Through the medium of these numerous practical results, the Department has been endeavoring to obtain accurate estimates on the cost of production of all the farm crops, the cost of man and horse labor, the net profits realized from the beef, dairy or swine herd, or from the flock or stud. A sufficient number of farms operating under similar conditions as regards climate, topography, proximity to market and line of farming are engaged in this work in each State, so that these average results are typical and are in no way marred by radical exceptions.

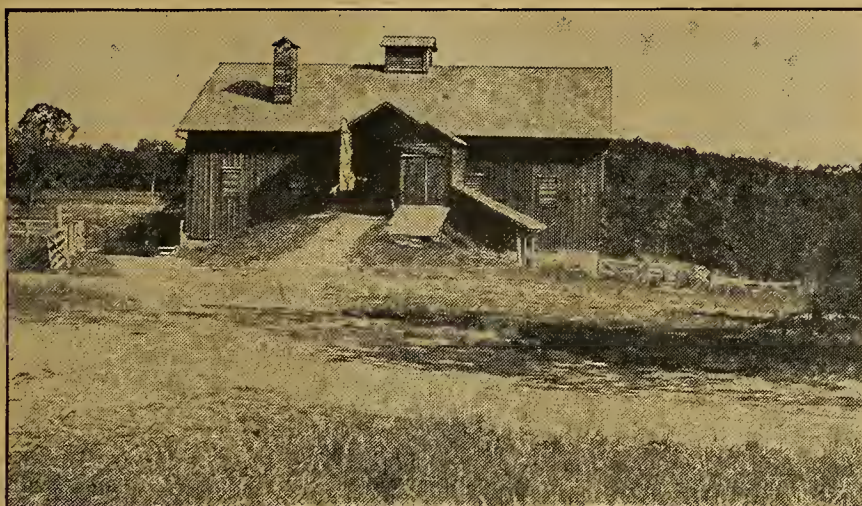
The farmers who engage in this accounting work for the government are in no way recompensed other than that detailed monthly reports and a comprehensive annual summary are furnished to them by the Department, which enable them at a glance to tell just how much gain or loss attends each farm operation. These reports contain a statement regarding each horse: his cost for feed and care, the number of hours he has worked and the net profit or loss occurring on account of his use. The same is true of every other head of live stock on the farm. The expenses of each cow for feed and care are balanced against her production of milk and butter-fat; in the annual statement her calf is credited to her, while the expense of raising the young animal constitute debits charged against her.

However, the benefits which the countryman derives from his indulgence in systematic accounting more than repays for the time which he devotes to this work. He becomes familiar with practical bookkeeping; his farm operations are placed on a business basis just as though he were engaged in some large mercantile business wherein each penny received and expended must be rigidly accounted for. He is obliged to institute methods of cow-testing if he does not already practise them, keeping track of the milk and butter-fat yield of each animal; he necessarily places more, though, on the character of the ration which he feeds; he realizes the value of more intensive fertilization; the necessity for efficiently conserving the stable manure and returning to the soil as much fertility as is taken from it. When the farmer sees in black and white just what each laborer and each animal, each field and each crop is returning in cash value, he is truly farming and not merely engaged in a disastrous game of hide and seek with non-productive fields, boarder cows or loafer horses.

An Efficient Farm

Among the rolling woodland pastures and fields of virgin fertility which surround Blue Mounds, Wisconsin, is situated the 500-acre farm of C. I. Brigham, who is one of the most efficient farm accountants that is assisting in the research work being carried on by the Department of Agriculture. In fact, he is so painstaking and thorough in this work that the Department authorities laughingly state that shortly they will be forced to assign one clerk solely to the task of recording and totaling the Brigham farm reports. Right here is the phase of this endeavor which needs to be simplified before the matter is reduced to an absolutely practical foundation. The accounting is too detailed at present and involves too much labor both on the part of the countrymen and the employees of the Department of Agriculture. However, it will be only through experience and investigation that some labor-saving expedient is discovered which will eliminate much of this seemingly needless effort.

The farmers engaged in this work often get their heads in action and make valuable suggestions which facilitate this accounting problem. For instance, Mr. Brigham devised a simple record for keeping track of the presence or absence of all the horses at meal-time. The custom was to weigh each horse's feed on the first, eleventh and twenty-first of each month and from these results to figure the average consumption for the month. Now it would often happen that several horses that were on pasture for the season would be in the barn the day of the report and were counted as grain-fed horses, when in reality they were returned to the pasture the next day. After pondering upon this question, Mr. Brigham devised a record sheet whereon space was provided for each day in the month after each horse's number, so that a dash could be drawn for the meals which the horse missed each day, or the space



Both cows and horses are kept in this barn

could be left intact in case the animal daily partook of all three meals. The Department adopted Mr. Brigham's suggestion and now makes efficient use of the present or absent at meal-time record sheet.

The Winning Methods

Only 100 acres on the Brigham place are under cultivation, the rest being largely woodland pasture. Quite a revenue is derived from the sale of cord-wood and this avocation affords abundant work at which to keep the hired help busy during the winter. Twenty-five acres are seeded to corn, 25 to rye, 7 to alfalfa, 32 to timothy and clover hay, 7 to barley and 4 to garden truck and small fruits. The dairy herd is composed of 50 pure-bred and grade Jerseys, headed by an excellent pure-bred sire of the St. Lambert strain. The cream is marketed with the local creamery, which permits of feeding the skim-milk to the young stock on the home farm. Breeding stock in cattle and Berkshire hogs are offered for sale; the pure-bred bull calves bringing \$50 apiece, while the grade cows command \$60 per animal. Mr. Brigham is mating his mares with a pure-bred Percheron stallion and intends to grade up his stud until he can finally embark in the pure-bred Percheron business as a side-line.

At present the Berkshire boar which won first honors in his class at the Wisconsin State Fair in 1910 is heading this swine herd. Mr. Brigham started out with Poland China hogs, but, although he efficiently fed and cared for the swine, they did not prosper or fatten so that they marketed much above their cost of raising. Therefore, he changed breeds and has met with considerable success in handling Berkshires. He feeds a balanced ration composed of 250 pounds of rye, 100 pounds of wheat-middlings and 50 pounds of oil-meal, supplemented by as much skim-milk as is available. The dairy herd flourishes on a winter diet of clover, timothy and alfalfa hay and corn-silage, in addition to a grain mixture of 200 pounds of bran, 100 pounds of ground oats and 50 pounds of oil-meal. In case other grains are cheap enough, they often supplant some of the ingredients of this ration. The oats are purchased, as they cannot be profitably produced on the farm, due to their tendency to lodge. Some of the fields are damp in the spring, and as Mr. Brigham says, "Rye is more satisfactory, because it is a better seeding crop, produces more bedding and on my farm makes a better gross yield. For example, this year my rye averaged over 35 bushels per acre."

"I have tried to feed silage throughout the year," continued Mr. Brigham, "but have given it up, as so much of this succulent feed spoiled before the herd were ready to eat it. During the fall and late summer when my cows are dry they do not eat so much, and I find that green corn, run through a corn-cutter and then fed, is preferable to silage under such conditions. My horse ration is based on clover, timothy and alfalfa hay and a grain mixture of 50 pounds of bran, 40 pounds of ground rye and 10 pounds of oil-meal. In the winter I also furnish them with a little ear-corn. I find that this combination makes an excellent ration and maintains the horses in the best of condition, no matter how hard they are worked."

The accounts which Mr. Brigham keeps cover four phases of farm work: labor, feed, seed and general financial items not otherwise listed. A labor report is made out each evening by each hand and sets forth how the helper was engaged throughout the day. For example, from 4:30 to 5 o'clock in the morning one man was engaged in feeding pigs, calves and horses; from 5 to 6 he was milking. He then breakfasted and cultivated corn in field A (each of the fields is numbered with a letter, while each of the animals is known by a number) with a team composed of horses 15 and 16. In this way throughout the entire day the laborer reports his work. His work is charged against each field and each class of live stock in accordance to the amount of time he devotes to them. At the end of the week Mr. Brigham sends all these reports to Washington, where they are sorted out and rearranged under the special classes to which they belong. This in itself means considerable extra work, as five men are employed on the place in addition to Mr. Brigham, who reports how his time was occupied as proprietor of the project. Ordinary

man labor is reckoned at about \$30 a month, while horse labor is estimated at ten cents an hour per animal.

In a similar manner a monthly report of all the feed consumed by all the live stock is made. Three times each month the food of each cow is weighed; the total amount consumed being figured from these trials. If the ration is changed in any way, note must be made of such difference. In addition to giving the ration, the market price of the feed must also be stated. For purchased feeds Mr. Brigham calculates this as the actual price plus the expense of hauling, while in the case of home-grown grain or hay it equals the market price minus the cost of delivery. This necessity for estimating the price of feeds is especially valuable, as it keeps the countryman in close touch with the market reports and leads to his appreciating the need for the average farmer being well versed in all information pertaining to the central markets.

The amount of time which each horse works is recorded, so that the expense of horse labor may be ascertained; any unprofitable horses may be located and disposed of. As was previously stated, the horse's consumption of food is accurately determined by use of the horse meal-time record. The feed of each animal is weighed three times a month and the same method of figuring its cost is pursued. The expenses of maintaining the swine herd are reckoned in the same manner as in the case of the dairy herd. The young stock are designated according to the year in which they were born, as the 1910 calves, and are treated as such until they enter the milking herd, when they are identified by numbers. The same is true of the pigs and foals. In the dairy herd, whenever an animal graduates from the young-stock class to the milking herd, the young stock are credited with her value, while the old cows are charged with a similar expense.

A profitable side-line which is also included in the accounting system on this practical farm is the poultry department. About 300 chickens are maintained under the care of the housekeeper of the men's quarters. Whenever any of the hired hands perform any labor



The Brigham home

in the chicken-yard, such work is charged against the fowl, but no charges are made for the housekeeper's services in this line of work. The same records as regards feed, labor and production are kept as in the case of the other domestic animals. In conjunction with five neighbors, Mr. Brigham formed the Blue Mounds Egg Association which markets its eggs with several Milwaukee grocers, receiving a little above market price for its product, which is dated and put up in fancy cartons.

What Makes the Soil Rich

The manure which is returned to the various fields is charged up against them. It is rather difficult to correctly apportion this fertilizer value, as its beneficial effect is distributed over more than one year. Mr. Brigham practises an excellent system of fertilization, which embraces the growing of alfalfa and clover and the careful conservation of manure. Raw rock phosphate is used as an absorbent to keep the stalls dry and sanitary and is carried each day to the fields in the manure and litter. Where occasion demands, the phosphate is also sprinkled over the load of fertilizer in order to replenish the store of plant-food in especially depleted areas. Previous to this, land plaster was used on account of its absorbent qualities, and for this reason the soil on the Brigham farm is well adapted to alfalfa, as so much lime has been applied to it in this manner that all tendency toward the development of an acid condition has been controlled. A diligent campaign against quack-grass and Canada thistles has been waged, so that at present these pests are prominent by their absence on this place. Digging out small patches by the roots, the practice of summer-fallowing and the intensive growth of cultivated crops has spelled sure death to these crop-despoilers.

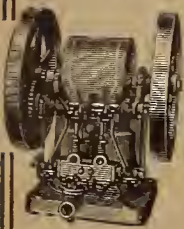
Some very interesting statistics could be compiled from the results which Mr. Brigham has already obtained in his practice of farm accounting. Last year he found that the most profitable horse on his farm performed 1,779 hours of work, which, estimated at ten cents an hour, made his services worth \$177.90. During this period this animal's expenses for feed and care amounted to \$72.78, which left a net profit of \$105.12 as the result of his work. The total number of hours put in by the nine horses on the farm last year totalled 10,507, which was worth \$1,050.70. In addition, each horse was credited with the [CONCLUDED ON PAGE 26]



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Market Outlook

Spring Prospects

THE continuation of cold weather during February and the advancing price of corn caused heavy marketing throughout the month. During the month, as in January, there were many temporary fluctuations due to the varying receipts during the periods of car shortages. There has been a narrowing in the scale of prices with the increase in the receipts of heavy weights and with the larger demand for medium butcher stuff from the East.

The general condition of the market is a healthy one. The country is willing to sell at current prices, and killers are willing to buy them. The large stock of pork in the hands of the packers is causing considerable alarm in the provisions pit, but the packers themselves are not concerned about it and continue to buy everything in sight and are filling their cellars to the limit. They are confident that the product of the hogs bought at \$6 to \$6.25 will sell at a profit during the summer and consider hogs at that price a good investment. The shortage of beef and mutton will take care of any over-supply of pork.

At present Irish and Danish bacon is selling at a lower figure in Liverpool and London than is the American product. During the last couple of years Europe, like America, has increased its pork-making operations because of the attractive high prices and has created an over-supply. Were it not for the tariff European bacon could compete in our eastern cities with the home-grown product. Here is once where the tariff is a benefit to the farmer.

The latter half of the month of February is usually a period of heavy marketing. Many farmers' debts become due on March 1st and the money from the hogs is used to meet these. Rent, taxes and payments on mortgages are the usual obligations cared for on that date.

After this date, receipts begin to lessen. The winter roads break up and early field work begins. With the coming of grass there is a general inclination to hold shoats for summer marketing. All these tend to curtail the supply. On the buyers' side there is also a bullish aspect. The Eastern States are sold clean of hogs, and shipping demand at western markets is the strongest of any

time this winter. Close to 20,000 hogs have left Chicago in a single day en route to eastern points. Even cities as far west as Cleveland and Detroit are buying at Chicago and Missouri River markets. Under such conditions the market should tend toward higher prices, but with full cellars the large packers are apt to be independent and not willing to support any decided rise.

L. K. BROWN, South Dakota.

Sheep Prices Do Not Rise

THE supply of poor and unfinished stock to nearly all of the big markets still continues unabated and, of course, tends to prevent anything like a steady rise in the prices of sheep and lambs. Directly a little fine weather sets things moving, or a little hardening of the market appears to be indicated in the daily reports, this flood sets in; and it seems to me that another month's continuance of this waste—for it is nothing else—of good material by the feeders and breeders must end in a most serious shortage of stock when it is needed in the spring; and should we happen to be blessed with an early season, with good pasture and forage crops, I shall have entirely missed my guess if good sheep and lambs do not command prices such as they have not seen for years. It is a most remarkable thing that the market has kept up as well as it has, and this is especially true with regard to heavy wethers and ewes, which were quoted all through last month seldom below, for the former, \$4.45 to \$4.65 and, for the latter, \$3.50 to \$4.10. There has been quite a scarcity of really choice lambs, and in consequence 60

Are We Asleep?

I WROTE our congressman, George A. Loud, to the effect that I believed the farmers wanted parcels post. By return mail came this reply:

Your letter is very welcome, I can assure you, being, as it is, the first letter I have received favoring parcels post. I have received letters and petitions, in large number vigorously opposing any measure of that kind, but those whom it would benefit or who should be interested in favor of it seem to be either asleep or taking no interest.

Sincerely, GEO. A. LOUD.

Why are we asleep? This measure is worth many dollars to us. A personal letter to our congressman costs us but two cents. And that letter is worth a whole bunch of petitions. Let's try it.

C. F. SMITH.

better farming. The inland States are beginning to see that they only grow as the country develops.

We have many cultured women and good farm homes in this country, but the large majority of farmers who have accumulated surplus money in the last ten years live in the same home with the same utter lack of conveniences they had twenty years ago, when they had no surplus money. And although the farmers are content with good times and good prices, the family is restless, and justly so. Farming is different from other business in this respect, in that as the business man succeeds his family have an easier life, but when the farmer prospers, he buys more land, keeps more hired help and adds to the work of the already overburdened family. Farmers will have to see ere long that the root of better farming lies in better homes and better home conditions. If some of this surplus money which is being invested in every State in the Union were used to modernize the home and if the work were so planned that the laborer would have steady work all the year round and cottages built for the laborer, it would be the best money investment the farmer could make. He would have steadier and more reliable help and he would lift his family up to a much higher plane of living. The present system of having single men picked up here, there and everywhere, often from the highway, and putting them in the home unwashed, unshaven and unshorn, without a clean shirt to their backs, eating at the same table, and in thousands of cases sleeping with the boys, is not only wrong, but an outrage on the home.

In Great Britain to-day every farm has its cottages for the laborer, and the farmer there lives on a much higher plane than the American farmer. We must come to it here.

W. S. A. SMITH, Iowa.

Peaches May Be Scarce

"NOT a live peach-bud within one hundred miles of Washington, D. C.!" says a government expert.

A New York fruit-grower wrote to a friend saying: "It went from 18° to 25° below in this section. Have not seen any one that has found any live buds. There may be a few live buds, however."

And from Connecticut comes this: "It was 20° below zero in low places here, but on our hills only 8° below zero. Most of our varieties have enough live buds for a fair crop. In one lower orchard not a live bud can be found. The white varieties are in better shape than the yellow ones. A letter from the Hudson River says it was 25° below and all buds killed; another letter says Lake Ontario district is O.K. Very few peaches will be produced here this year except on the highest hills."

This would indicate that in some sections peaches this coming season will be sold at a premium. Reports from Michigan and other sections, however, are more cheerful.

The Frozen Peaches

OWING to this almost unprecedented winter, the loss to peach-growers will be very great. It is hard to tell just how serious the damage is. We would advise, however, not to prune the peaches, until it can easily be seen what wood, if any, is alive and what dead. Sometimes growers have pulled out their whole orchards which were apparently dead, while their neighbor's trees in the same condition produced enough sprouts to make an excellent orchard the second year after. Often a tree is saved, and even a shapely tree made after cutting back to the ground. But the fruit crop is in more danger, since all fruit is borne on the previous season's growth, and that growth is more susceptible to winter injury. If, upon examination, the cross-section of the flower-buds are brown, that means they are dead—no fruit will be produced. The leaf-bud will stand more severe weather, but if that is killed, it, as well as the twig, may remain green until the first real thaw comes.

Only in extremely severe years can one really predict, at this time, the outcome of a fruit crop, and even then he may be fooled. Nearly every year people in the cities laughingly remark, "Well, it's most time to hear about the fruit crop freeze, isn't it?" But at this writing it does seem probable that peaches will be scarce next summer. In the East and Middle West the crop will be very light; in some sections the trees themselves will be killed. When the temperature gets down to twelve degrees below zero, the peach fruit-buds are in grave danger, but when it gets colder and lasts, as it has this winter in many peach-growing sections, the worst winter-killing of the trees can well be feared.

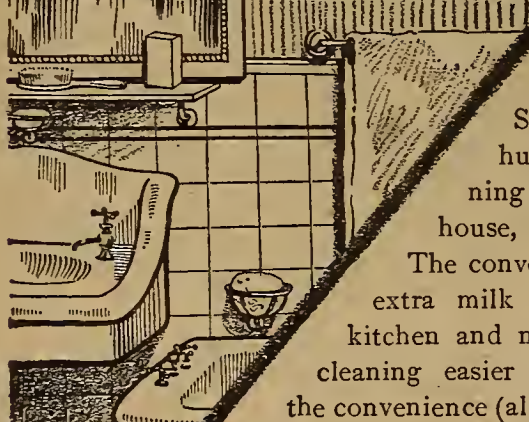
On the whole, present indications are for a fair early crop from the South, but for very small main-season and late peaches.

A. J. ROGERS, JR.

Saving on roofings and shingles puts the plows and wagons on the scrap-heap.

Take the poorest piece of barren land you have, and just before a rain get some orchard-grass seed in it, well covered up. Two years after go back and look at the spot! What a change you may expect!

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Biggest incubator ever sold at the price—has hundreds of dead air cells—well made, has cold rolled copper tank, hot water heat, double disc regulator, deep nursery, high legs, double doors, egg tester, safety lamp. Special price \$7.35. Incubator and Brooder together \$9.85. Freight prepaid East of Rockies. BIG BOOK FREE. Order direct from this ad—our "Buy Back Guarantee" protects you. If you want details of this great incubator offer, send without delay for our big book "Progressive Method".

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ADVANCE MFG. CO., Box 85, Greenville, Ohio

Poultry-Raising

Dead in the Shell

ONE of the greatest difficulties I have had in hatching chicks in incubators is that of the chicks dying in the shell. Not until hatching chicks by artificial means became popular was there any attempt made to discover why chicks die in the shell, although they died in the shell when old biddy sat on eggs long before the incubator came into existence.

Whether there is a larger number of chicks that die in the shell where eggs are hatched by the incubator than by natural means is doubtful. Two eggs under each hen showing chicks dead in the shell will not attract much attention. The same proportion dead in an incubator will cause considerable alarm.

But why the chicks die in the shell is a difficult question to answer. The cause is not always the same. Perhaps not in two cases in twenty will the conditions under which the eggs are incubated, or the conditions surrounding the eggs before they were placed in incubation, be the same.

A few chicks dying in the shell should cause no alarm. It cannot be prevented. It is an impossibility to hatch every egg, and a few chicks failing to come out of the shell is no indication of faulty incubation, nor does it show a weakness in the breeding stock. A large number dying, however, should cause one to look about for the trouble which is not easily found. The incubator is not as often at fault as many are inclined to think. If the machine is a good standard make, the trouble is more likely with the operator or with the eggs. A poor operator will not get a good hatch with the best machines made. If neither the machine nor the operator are at fault, then the trouble lies further back.

Carefully note the conditions surrounding the eggs after they were laid and before they were placed in the incubator. If sent a long distance and perhaps roughly handled, a larger per cent. of chicks than usual can be expected to die in the shell. Eggs too long exposed to a chilling atmosphere, or kept in too warm a temperature, or kept too long after being laid and not turned daily, will show an unusually large per cent. of chicks dead in the shell.

Eggs to hatch well in an incubator should be as fresh as possible, the nearer all are of the same age the better. Eggs two or even three weeks old have been known to hatch very well, but those not over a week or ten days old are much more to be preferred and trusted. Eggs to be set should be kept in a temperature of about fifty degrees and should be turned at least every other day.

Go still further back, and note the condition of your breeding stock. It may appear healthy but fail to produce strong-germed eggs. There may be lack of vigor on the part of the male or a spirit of uncongeniality between the male and some of the females, or the feeding ration may be lacking in some needed element. They may not have sufficient green or meat foods, or the feed may not be fed so that the fowls can get the proper exercise to keep them in a vigorous condition. Your breeders may be undeveloped or poorly fed or overfat. Look over all these conditions carefully, overlooking nothing that has to do with the strength and vitality of the chicks either directly or indirectly. Remember, too, that the secret of securing high per cent. hatches depends as much on strongly fertilized eggs laid by healthy, vigorous birds as upon proper incubation.

The more frequent causes of chicks dying in the shell, where the incubator or operator is at fault, are irregular temperature, neglect in turning eggs, improper ventilation, more frequently insufficient, caused by operating the machine in a poorly ventilated room. The directions accompanying an incubator are generally to be relied upon, and if these are followed, no greater trouble should be experienced with chicks dying in the shell where eggs are incubated by artificial than by natural means.

A. E. VANDERVORT.

The Muslin Front

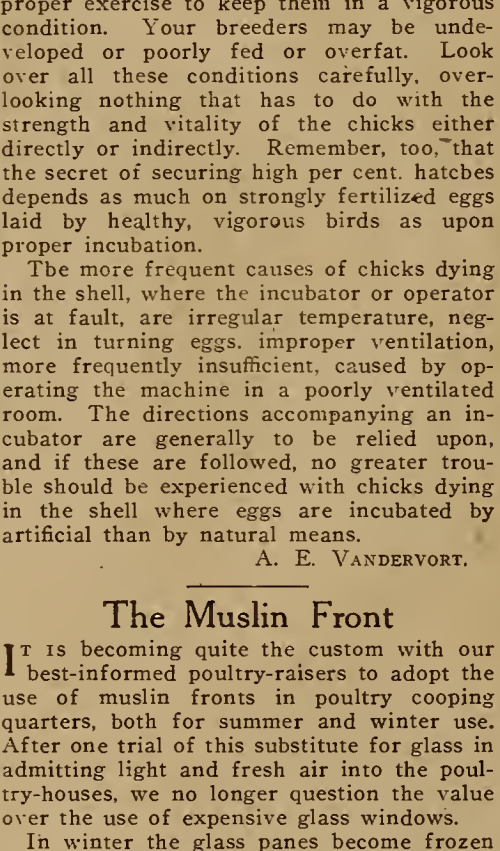
IT is becoming quite the custom with our best-informed poultry-raisers to adopt the use of muslin fronts in poultry cooping quarters, both for summer and winter use. After one trial of this substitute for glass in admitting light and fresh air into the poultry-houses, we no longer question the value over the use of expensive glass windows.

In winter the glass panes become frozen over with moisture from the breath of the fowls, and particles of dust congregate in the congealing mass and soon the light of day is almost obscured. With the muslin front the light admitted is the same every day in the year, for the dampness all passes through the muslin front, and the house is dry and sanitary. No roup nor bad forms of cold occur in the muslin-front house.

We shall never build another poultry-house with glass front. Of course, they look

Combined Roosts and Nests

I THINK I have studied out and made a perfect combined nesting and roosting box. The nesting-boxes are of easy access, and at the same time so secret as to please the hens, and make them very secure from the hens learning that pernicious habit, so often learned in the winter, of eating their eggs. The roosts are in a position to allow all possible access of fresh air without draft, and at the same time allow protection from a severe cold night. The third important advantage lies in the fact that it is made so much in sections as to be moved with ease. Every part is perfectly accessible, so



as to be easily oiled or whitewashed, to prevent and remove disease or lice. The foundation is a bench (A) fifteen inches high, which allows the hens to use the floor space underneath, so that is not wasted; twenty-five inches wide, and as long as desired, conforming to the space available and fowls to use it; remember, the nests (E) should be fifteen inches square, so the length should be an equal multiple of fifteen. The nest-boxes should have a door (B) to turn down in front, with sufficient open space in cracks to allow the hen a little light, and yet dark enough to encourage them in hiding their eggs, and also to discourage the idle hens from hunting after the newly laid eggs. You will note the hens enter an entrance (C) at back right (or left) hand corner, at the end and into an alley (D) that runs back of the nests (E) and opens into each. On top of the nest is a cleated cover of matched boards that carries an open-faced box without top or bottom, that sets on the cleated cover and in turn supports a cleated cover. In this open box is placed a roost made of two poles nailed to one-by-three-inch strips twenty-four inches long for supports. At the front edge of cover is fastened a piece of burlap, or strip of blanket, to turn down on very cold nights after the hens are at roost. Large fowls need a cleated board set slanting, in order to walk up to the roost. A small box should be set at the entrance of the nest-boxes.

MYRON C. SAFFORD.

Beginning with Pigeons

NOW is the best time of year to start with pigeons, as breeders are disposing of their surplus stock cheap, and it gives the birds time to get settled down by the time the breeding season starts good. We would advise the novice not to start with more than one variety, as he will find plenty to do studying the points of one breed. It is best to begin with a variety that is easily raised

some better, are more expensive, but we are after health for our fowls, and if we want high-priced eggs, we must have healthy fowls. This means healthful winter quarters. We have on our farm a winter house 14x56 feet with glass-pane front, but that must go. We are sure the muslin front is best.

Many make a failure with muslin fronts by tacking it loosely over the opening. This allows the muslin to flap and flay into shreds. Instead, the openings should be fitted with frames of light material and the muslin tacked, tightly stretched, over these frames.

Insert the frames hinged at the top, and upon fine days, even though the snow and frost be present, the fronts may be swung inside and hooked to the roof overhead. The interior of the house soon takes on the mild atmosphere of the outdoors.

GEORGE W. BROWN.

Care of Males

OFTEN the males are so gallant they give their portion of the food to the females and are in poor flesh. When this is observed to be the case, little boxes or hoppers of mixed grains and dry mash should be hung upon the walls of the house, high enough to be out of the reach of the females, but readily reached by the males.

MRS. ANDREW BROOKS.

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GET a motorcycle. Let it take your children to city high school. Let it make your runs to town. It will carry freight weighing up to 200 lbs. Travels 10 miles for a cent. Carries two as well as one. It will keep the children happy on the farm.

The new models have a **Full Motoring** seat (a device that does away with all jolts and jars due to rough roads) and **Free-wheel** control which **Free-wheel** permits machine to start like an auto. Send for booklet.

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It took me 25 years to make such an offer as this. Will you write for it now? I'll guarantee to send you a welcome surprise. If I told you my low, factory price here you'd think my machines were like the cheap kind.

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stand up against highest priced hatcheries, and make highest poultry profits for owners. Write me. My book is better than ever. My offer will please you. My machines, my experience and help will insure your success.

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125 Egg Incubator \$10 and Brooder BOTH

Freight paid east of Rockies. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Send for it today.

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and Almanac for 1912 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickenhood. You need it. Only 15c.

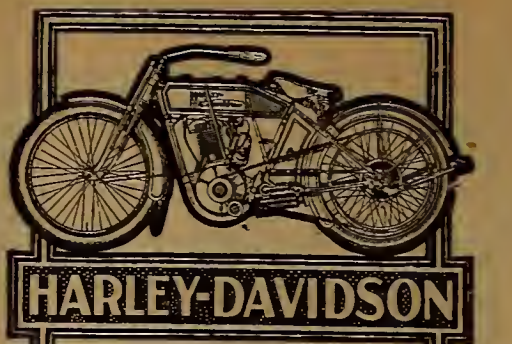
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EGG Incubator **CHICK BROODER** **Both \$9**

Both complete with all fixtures. Incubator has 3 walls— asbestos, lumber, galvanized iron. Nursery, copper tanks, self-regulating. Sold under guarantee that makes you safe. Order direct or send for Free Catalog.

Chicago Incubator Co., Dept. 17, Old Colony Bldg., Chicago



Motorcycle Keeps The Children On The Farm.

GET a motorcycle. Let it take your children to city high school. Let it make your runs to town. It will carry freight weighing up to 200 lbs. Travels 10 miles for a cent. Carries two as well as one. It will keep the children happy on the farm.

The new models have a **Full Motoring** seat (a device that does away with all jolts and jars due to rough roads) and **Free-wheel** control which **Free-wheel** permits machine to start like an auto. Send for booklet.

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It took me 25 years to make such an offer as this. Will you write for it now? I'll guarantee to send you a welcome surprise. If I told you my low, factory price here you'd think my machines were like the cheap kind.

Miller's Ideals

stand up against highest priced hatcheries, and make highest poultry profits for owners. Write me. My book is better than ever. My offer will please you. My machines, my experience and help will insure your success.

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Our two BIG FREE BOOKS tell YOU how. OUR New 1912 Hatcher and Brooders will give you stronger chickens and will save half the cost. Write for FREE BOOKS today and we will tell you how to MAKE your poultry pay better than the rest of the farm.

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like hungry wolves and keep you busy if you use Magic-Fish-Lure. Best bait known for attracting all kinds of fish. 25cts. a box. Write for free booklet and my special offer of one box to help introduce it.

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The Big Catch is always made with the MARVEL AUTOMATIC HOOK. Greatest Sure Catch Invention Ever Made. Gets the big ones as well as the little fellows—they can't get away. Sent you at your own price just to get acquainted. Send us some postage stamps to help pay the expense and we will forward the book without cost by return mail together with some information which will help you double your catch this year. SPORTING NOVELTIES CO., Dept. 10, ST. LOUIS, MO.

and which can feed their own young, as some of the fancy breeds don't feed their young, and have to have foster parents. The Homers, Fantails and long-faced Tumblers are easy to raise and are good feeders and breeders. It is best to buy your stock of some well-known breeder, one who breeds his birds and can win with them, and be sure and get pure-bred birds. We keep our fancy pigeons in confinement, and they breed as well as if they were at liberty. A lean-to shed with a wire front makes a good house to begin with. A few pairs are all you need to start with, as they breed very fast. Pair your birds when they are about six months old. The hen lays two eggs, one day between each egg. The birds manage the hatching between them, hatching seventeen days after the last egg is laid.

Wheat, peas, beans, Kafir-corn and corn all make good feed. Give your pigeons a bath four times a week in summer, two times in winter and plenty of pure water to drink. Keep your house clean, and you will have no cause for disease.

GEORGE MAY.

Selecting Layers

NEARLY every poultry-keeper has a way of his own of selecting the best layers. There are at present four ways in vogue of telling the good laying hen: by trap-nesting, by the egg type, by the pelvic bones and by vigor of constitution.

They all have merits, but none is an absolutely sure way of telling the performance of a hen, except by the trap-nest, but, in spite of this, when taking all things into consideration, the trap-nest has little to its credit to warrant the average poultryman in trap-nesting his flock. The chief obstacles against the use of trap-nests are that they require almost constant attention, consume so much valuable time and insure you nothing in the progeny of the trap-nested hens. This last point will come as a shock to many who have trap-nested with a view to increasing the productiveness of the flock. It is to be understood that the trap-nest is to go strictly on its merits.

It has repeatedly been heralded in the poultry and farm papers as the only means or way of building up a flock of good layers. The trap-nest shows us what the hen does and her egg.

Vigor of constitution shows us not only the possibility of the hen, but also of the male bird, which is half the flock. Two characteristics of all hens with great egg records to their credit are vigor of constitution and the egg type. What is meant by the egg type is a bird that is wedge shape and is large or heavy of body, back of legs. This should be "egg machinery," and not fat. It is sometimes called "power behind the throne."

The method of selecting the laying hen by the pelvic bones has been advocated quite strongly by a few individuals for the past six years.

The pelvic bones are just below the vent; the wider apart they are, the better the layer. This method is good if one wants to find the laying hen at time of making the examination, but is of doubtful use in determining the past or future production.

Let us see what some of the State experiment stations have done in selecting the layers and breeding for greater egg production. One station has trap-nested hens continuously for over ten years. For the first eight years the work has been conducted by an able and painstaking man. In that time the records show many hens with a record of 200 eggs or more each. It was admitted that the care, housing and feeding were better at the end of eight years than at the beginning, when the yearly average production was about 145 eggs per hen. In no case were eggs incubated from hens unless they layed 150 or more eggs in their pullet year. These hens were mated with males whose dams had a record of 200 eggs or more each.

Usually like produces like, but in this experiment of increasing the average egg production of the flock in eight years it was actually decreased to about 136 eggs, each. The decrease from 145 to 136 eggs seems not so bad until one reflects on the fact that, to begin with, the 145 eggs was the average record for the whole flock, and in each succeeding year they bred only from hens laying 150 or more eggs. One would naturally suppose that at the end of eight years the average would be above the low-water mark of 150. It is not well known whether or not anything besides the individual's egg record was taken into consideration in this breeding experiment for increasing the productiveness of the flock.

At another leading State institution their slogan is "vigor of constitution." They have trap-nested hens for many years, but just what their aim is I cannot now say. This is the result: they have greatly increased the productiveness of the flock and produced the greatest laying hen with a public official record. A hen must have constitutional vigor to digest and assimilate the great quantity of feed required of a good layer for a long stretch of time. It has been my observation in trap-nesting pullets that some would die in early spring unquestionably because of their lack of constitutional vigor or their inability to transform large quantities of feed or to

withstand the strain of heavy egg production. You see that these temporary good layers don't get the opportunity to reproduce themselves, and when they do, they transmit their weak constitution to the offspring. The average yearly production per hen in the United States is 60 eggs and on special poultry-plants about 120.

The difference in favor of the latter is principally due to better care, feeding and housing. If it took four thousand years to increase the productiveness of the "jungle fowl" from 20 to 60 eggs by artificial selection and the reproduction of the "survival of the fittest," the course for us to pursue is plain. A good method of selecting the layers that is practised on a successful farm is the discarding of all undesirable birds during fall and winter. I find that the best layers are those of medium size which begin to lay reasonably early in life. By discarding the small, the very large, the sickly and weak ones and those having undesirable characteristics and habits, and by taking into consideration the methods of selecting the layers mentioned early in this article, you will come out in the spring with a fine lot of birds, but all this will avail us little if we neglect the care, housing, feeds and feeding of them.

To transmit the good qualities of our selected hens, we mate them with a male having had the same careful selection, together with good size and bright eyes; one who struts much and crows more and who stands erect.

GUS. WALTERS.

Sign Your Letters

EVERY day inquiries are received lacking complete address or writer's name, or both. Sign every letter sent to FARM AND FIRESIDE that you wish to have attention.

Feed for Eggs

THE following formula is not a condiment or so-called "food" in any sense, it is simply a fairly well-balanced ration to be fed dry, in a self-feeder, and to be kept in reach of the hens at all times.

It is also a good feed for growing chicks, to be given them in the same manner. Two bushels, each, of corn, wheat, oats, barley and Kafir-corn, each ground separately; one hundred pounds of bran; fifty pounds of alfalfa-meal, the same of beef-scrap and the same of millet-seed; twenty-five pounds of oyster-shell, the same of good grit; five pounds, each, of charcoal and salt.

Put all these ingredients in a clean wagon-bed or large box, and mix thoroughly with a scoop-shovel. Store in a dry box or bin.

Keep fresh water in reach all the time, and a dry, clean dust-bath. Feed two fresh rabbits, or their equivalent, each week to each dozen hens. Remove skins and entrails, then chop up fine, bones and all.

After hens are on the roost, scatter and bury wheat in a foot of dry litter, about a pint and a half to each dozen hens.

If hens were healthy and vigorous to begin with, and the house is dry, fairly warm and not overcrowded, this feed will surely promote egg production.

Overcrowding is the rock on which many poultrymen sink. It is not possible to cause two chicks to be where one was before and still be successful.

EMMA CLEARWATER.

Prevention Better Than Cure

IN RAISING chicks, prevention of lice should be the object kept in view, as the chicks are so easily killed by lice, which are often an unsuspected source of mortality. If chicks are hatched in incubators and reared in brooders and yards unfrequented by older fowls, there will be no lice to fight. If they are hen-hatched and reared, the case is different, and we must take all precautions that chicks begin life free from lice, and kept so. I have not tried the Cornell powder for sitters or chicks, but the pyrethrum powder is entirely harmless to eggs and chicks, and this is what I use mostly. The setting-hens should be removed from the hen-house, well dusted with the powder, placed upon eggs in a clean nest freshly made in some quiet building away from the other hens. It is safer to dust her the second week also, and it surely must be done two or three days before chicks are due to hatch.

I have the room darkened and take them off to feed before sundown, also seeing that plenty of water is by them at feeding-time, also grit and charcoal. In using Rock hens for sitters, I find it safe to set them over again, even the second or third time, giving two lots of chicks to one hen to mother, and half the hens can be reset. In the case of old hens that have proved their worth as layers and are needed for breeders, I prefer the long period of incubation; it rests and renews. Such birds make an easy early molt and are valuable breeders. The hens should be well powdered each week with the insecticide while brooding the chicks.

If, by chance, a hen steals her nest and comes off with chicks, they, too, must be dusted.

MRS. ANDREW BROOKS.



Protect Your Poultry

from all kinds of weather—rain and snow, heat and cold. To do so, you need a roofing for your poultry buildings that is rain-proof, snow-proof, heat-proof, cold-proof, time-proof and fire-resisting. RU-BER-OID is all of these. It lasts longer than metal or shingles, is easier to apply and costs less.

RU-BER-OID

(Accent on the "RU" and always spelled with one "B") Is the cheapest roofing known, considered from the standpoint of 10 or 20 years' service. It is the original smooth surface, ready-to-lay roofing. It is made of wool fabric, saturated and coated with RU-BER-OID Gum.

When buying roofing always demand RU-BER-OID and remember, unless the RU-BER-OID Man is shown on the outside wrapper, the roofing is not the genuine RU-BER-OID. The RU-BER-OID Man is your protection. Look for him.

KA-LOR-OID is the only permanently colored prepared roofing—RED, GREEN, BROWN. (Colored Ruberoid)

For any building RU-BER-OID is the best cover and siding. Buy a roll of it to-day. Be sure the RU-BER-OID Man is on the wrapper. He is our trade mark and your protection.



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140 Egg Incubator BOTH \$10.00

Chick Brooder

If ordered together, 30 Days trial—money back if not satisfactory. Incubator is Calif. Redwood covered with Galvanized iron, triple walls, copper tank, nursery egg tester, up ready to run. Brooder with wire yard. Roostery well made. Order from this adv. Catalogue Free.

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\$7.55 Buys Best 140-Egg Incubator

Double cases all over; best copper tank; nursery, self-regulating. Best 140-chick hot-water brooder, \$4.85. Both ordered together, \$11.50. Freight prepaid (E. of Rockies). No machines at any price.

are better. Satisfaction guaranteed. Write for book today or send price now and save time.

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GARDENING

By T. GREINER

Onions Always Lead

MORE information on onion-growing is wanted. This in spite of the fact that I mention onions oftener than any other garden crop. But the onion is and remains one of our most important and often most profitable garden crops. Those that take rank with the onion in importance you can easily count on the fingers of one hand, with a finger or two to spare. This time the inquiry comes from New Mexico. Supposedly the soil is rather sandy and probably just the soil and climate best suited for growing the sweet Spanish onion varieties. Most likely it would be best to grow the plants in the fall, if climate permits, or during the winter, and under glass if necessary, and set them early in open ground. This plan is known as the "new onion culture," and anyone who desires to go into this as a business, should get a copy of "The New Onion Culture" (price, fifty cents); study it and adapt it to his local conditions. Growing the onions may be a great success, under the favorable conditions of climate and locality. The question of marketing may involve the main problem. Where the large sweet Spanish onions, especially the Gibraltar and Prize-taker, can be sold directly to appreciative consumers, or to the local grocers to be retailed at a good price like the imported Spanish (which are no better), I would always advise the gardener to make a trial of this newer system of growing these fine and popular onions, at first, of course, on a limited scale.

But when you have good onion-land, say a rich fibrous loam, clean and fairly free from weed-seeds, and can put on a good coat of manure that is also fairly free from weed-seeds, or on rather sandy land a good dressing of good fertilizer, then you can grow a good and probably paying crop of ordinary onions by the old system of sowing seed in open ground. It is essential, however, that the land should be put in best shape and prepared in good time so that seed can be sown very early in spring, or just as soon as the weather will permit. Among the best varieties we have for this purpose is Yellow Globe (Southport) and Yellow Danvers, or Early Round Red for cold, mucky soils. Without early sowing, the chances are against success. Have the surface perfectly smooth, made so with the hand-rake if necessary, and drill in the seed with a garden drill, at the rate of about five pounds per acre. In ten days, usually, the seed will come up, and cultivation should begin promptly. The hand wheel-hoe is the tool for this. Run the hoes carefully, close to the rows so as to save hand-weeding as much as possible. It takes work to keep the rows clean from weeds, but it must be done, and this promptly. Keep the ground loosened between the rows right along to the end of the growing season, or until the yellowing and falling over of the tops show that the onions have about reached full maturity. Then pull them promptly in a dry time, and try to keep them dry, if necessary by spreading in a shallow layer on a barn floor or loft until the tops have nearly dwindled away. Then clean them by twisting remnants of tops and roots off, put in crates or baskets, and sell them. Unless you have unusually good storage facilities, this is better than trying to hold them over for bigger prices.

Books on Bush Fruits

A lady reader who lives near the sea-coast in central New Jersey, asks for the title of books giving information on strawberry, raspberry, currant and gooseberry culture, and about the soil these crops do best on; also what kind of soil is needed for growing good corn crops. Probably "Bush Fruits," by Fred W. Card, published by the MacMillan Co. of New York, at about \$1.50 a copy, would fill the bill. The sandy soils or sandy loams of New Jersey generally are well adapted to the culture of the bush fruits named, and to that of corn likewise, provided they are properly enriched. Commercial fertilizers often give great results on these soils. For strawberries, applications of organic manures, such as rich composts or stable manures free from weed-seeds, are of especial benefit. We can and do grow all these bush fruits, and grapes and corn in the bargain also, on our stronger soils quite successfully. What is needed for corn, especially, is a well-drained soil and plenty of plant-foods.

General-Purpose Sprayers

A Virginia lady wants me to recommend a "general-purpose" sprayer for spraying garden crops and about a hundred trees, etc. I am unable to do that, for the general-purpose sprayer is a delusion and a snare, more or less. The garden sprayer, such as a compressed-air or a knapsack sprayer, good to spray garden crops all right, might

do for spraying newly set or nursery trees, but is wholly insufficient for spraying larger trees, and even the barrel sprayers with pump operated by hand are only a makeshift in treating large trees in large orchards. Of course, a good hand sprayer (knapsack or compressed air) is almost indispensable in the garden for spraying potatoes, currants, cucurbits, small trees, and may also be used for whitewashing fences, hen-houses, etc.

Hiding Plants from Bugs

A Vermont reader says he has made a practice of planting a few sunflower-seeds in melon, cucumber and squash hills, and letting the sunflowers grow and mature. No "bugs" ever trouble his vines. It has often been recommended to plant a few beans, or a pinch of radish-seed, or possibly other seeds, with the melon or cucumber seeds, in order to hide the vine plants or change their scent so as to "fool" the bugs (beetles) and save the plants from attack while young, then afterward pull these radish or bean plants up and give to the cucurbits the room. That may work in some cases. But I have known this expedient to fail and the vine plants be an entire loss. Sunflowers would probably do as well. But when we let such greedy feeders grow and mature, we take the needed plant-food away from the crops we really want and, especially in the case of melons, also rob them of the sun and warmth they must have in order to come to maturity. I prefer to rely on spraying with Bordeaux mixture and arsenate of lead.

Pin-Money from Grape-Juice

A Michigan lady asks for my recipe for making grape cordial or unfermented grape-juice. Stem and nicely sort twenty pounds of black, well-ripened grapes. Mash them somewhat, and add three quarts of water. Put this on the stove to heat until softened so that the juice will come out easy. Then put all of it into a jelly-bag to drain. To the juice add three pounds of sugar (brown), and put on the stove to come to near the boiling-point. Then put into bottles or fruit-jars, and seal tightly. This "cordial" is even better and richer than the commercial unfermented grape-juice and will keep all right as long as it is kept sealed. I have no doubt that surplus grapes can often be used to best advantage and great profit in this manner.

If there is any job that you hate to do, learn to do it well, get really expert at it, and the labor will cease to be a dread.

Using Nitrate of Soda

THE North Carolina plan of using nitrate of soda in growing field-corn or other corn is to cover it in near the roots, but not on them, as soon as the stalks are eighteen to twenty inches in height. The nitrate of soda is applied to the cotton-plants at about the same stage of growth, care being taken not to apply it too late in the season and thereby promote a late growth and injury from early frosts. The paying value of the nitrate of soda when used as directed is greatly underestimated. W. M. KING.

The Paper Mulch

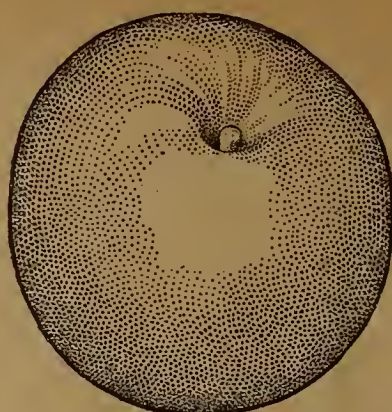
IN REPLY to inquiries regarding the paper mulch for strawberries, the author and inventor will reply by stating that although this is a new method of mulch and much is yet to be tried out by experience, which takes time and patience before it is or can be on a par with other perfected inventions, still enough has already been learned to satisfy the writer that it is the coming mulch, in particular, in localities where strawberries, etc., cannot easily be procured even at prohibitive figures. The heavier grade of tarred sheathing board or paper so far proves preferable to others. This paper, if handled only with ordinary caution when spread upon open (worked) soil, will last from two to four years, and as ordinarily strawberry-beds are, or should be, set fresh every two years at least, the paper, so far as its enduring qualities are concerned, fills the most exacting requirements. As to removing the paper after the fruiting season, I have never done so, as that at this time is one grand feature why I want it there. We all know that on ordinary strawberry ground the soil has been enriched by various manures outside of commercial fertilizers and that several months elapse before freezing weather ensues. Legions of weeds, etc., come in and unless removed by hand (a laborious process) the bed is a failure. This paper keeps all weeds, grass, etc., absolutely down.

As a whole, I am of the conclusion that there is not much preference between solid narrow strips or those perforated. Each system has peculiar merits of its own.

G. A. RANDALL.

Why growl at the birds stealing cherries while worms are steadily boring into the roots of the tree? Go after the worms with a wire.

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Garden and Orchard

Spray Now

ON MARCH 15th, we expect to start spraying for San José scale, using the concentrated lime-sulphur solution diluted ten times with water. In badly infested orchards spraying with the same strength of solution should also be done in the fall after the leaves are off. One application, however, in the spring will ordinarily be enough.

Even though our orchards may be entirely free from San José scale, a good, thorough application at this time on all our trees—plums, peaches, cherries, pears, apples and quinces—is a hygienic measure that pays big. For example: on the apple, this treatment will help a lot in preventing the future plant-louse, blister-mite and apple leaf-hopper crops, all of which are particularly troublesome with us.

In the case, though, of the apple leaf-hopper, it should be said that the adults may



The three photographs shown on this page tell of the practical work being done by Mr. Rogers, who contributes so frequently to Farm and Fireside. Burning brush-heaps were familiar sights in the early history of the improvement of this farm in Michigan

live over the winter, and these may cause trouble, which cannot be entirely prevented. Our worst leaf and twig disease of the peach is known by the name "Leaf-Curl." It is said that this one disease causes a \$3,000,000 loss to the peach industry every year, and yet this can be entirely prevented by the same spraying. All spring infection of Leaf-Curl comes from spores that are lodged in the bark. Here the lime-sulphur solution shows its value as a fungicide in preventing the germination of these spores.

A. J. ROGERS, JR., Michigan.

Cataloguing an Orchard

"BOUT a thousand," Hiram had replied when I asked him how many apple-trees there were in his orchard. "Mebbe not quite so many, but more'n I can care for," he added. My count had been five hundred and forty, and I bought the place on my own figuring rather than his.

Hiram West was an honest man and a truthful one. He had told me what he himself believed. His orchard had grown up around him, he or his children had set out every tree on the place, and he knew the trees almost as well as he knew his children. They had been planted at odd moments, a few at a time, and the rows were not regular nor the varieties kept together. Yet with Hiram this did not matter much, for he knew every tree by its first name, knew its age, its birthday anniversary and the quality and quantity of the yield for each year of its life.

But when I bought the orchard, it mattered a lot, for I could not keep more than five of them in mind at once. So this was where something must be done. I must know my trees, and it was out of the question for me to attempt to learn five hundred



Elberta peaches set in the spring of 1910, just after the land had been cleared. A cover crop of oats and vetch is just coming up

and fifty of them in the time at my disposal. Any system of numbering row and tree on a chart was impracticable, because the trees were not in regular rows nor set at equal distances apart. So the conditions called for the numbering and marking of each individual tree. Tin numbers and zinc

strips I did not like, and finally decided to paint the numerals on the trunk with white paint. This I did before the picking season.

Then I took a little note-book and gave three lines to each tree number. Hiram and I went over the orchard together, he telling me the variety of each tree and snatches of the treatment which it had recently received. Such, for instance, as "I put a big mulch of manure 'round that tree last fall. It's one of the money-makers." All this information I entered in the little book opposite the number of the tree. At spare moments I would go over the orchard by myself and add comments on the crop. I made entries like these: "Big yield, extra fine color and size." "Big yield, size small, color poor." "Few apples, badly injured by curculio." Whenever I was on hand at the picking of a tree, I added the size of the crop, together with the date of picking. Thus I now find that tree No. 341 yielded four barrels of fair-quality apples and was picked on September 14th.

These details, while vitally important to me, were not necessary to Hiram. He knew about when the different varieties would be ready to pick, and he could remember the size of the crop and the treatment which the tree had received. But the lack of this cataloguing had cost Hiram West thousands of dollars, not in the details above mentioned, but in the broader view which comes from study of the record at leisure. He knew he had too many varieties, but his guess at the number of them would have been about one half of the truth. He knew that certain varieties were especially profitable, while certain others were scarcely worth picking. He thought he had a lot of the profitable trees and only a few of the poor ones. He thought he had a thousand trees, when he really had but half of that number.

Let us look at what the record has told me—the owner of three months—about the orchard that had grown up around Hiram West.

There are 545 trees in this orchard, consisting of 39 varieties.

Of the most profitable variety there are 74 trees. Of the best apple grown on the place there are only 17 and of these half are recent top-grafts.

There are 14 trees of a local variety, the pride of Hiram's heart and the second best for profit.

But of a variety scarcely worth picking there are 23, and of another kind of no value at all there are 16 trees.

It is safe to say that the actual number of good trees is less than one-half, and of the poor trees nearly double, what Hiram thought he possessed. The loss is obvious, the loss in dollars and cents. The cost of



One of Mr. Rogers' seven-year-old peach-trees. This particular one, in 1911, yielded six bushels of first-class peaches, which sold at \$2 per bushel

caring for these useless trees, the potential loss of profit that might have been.

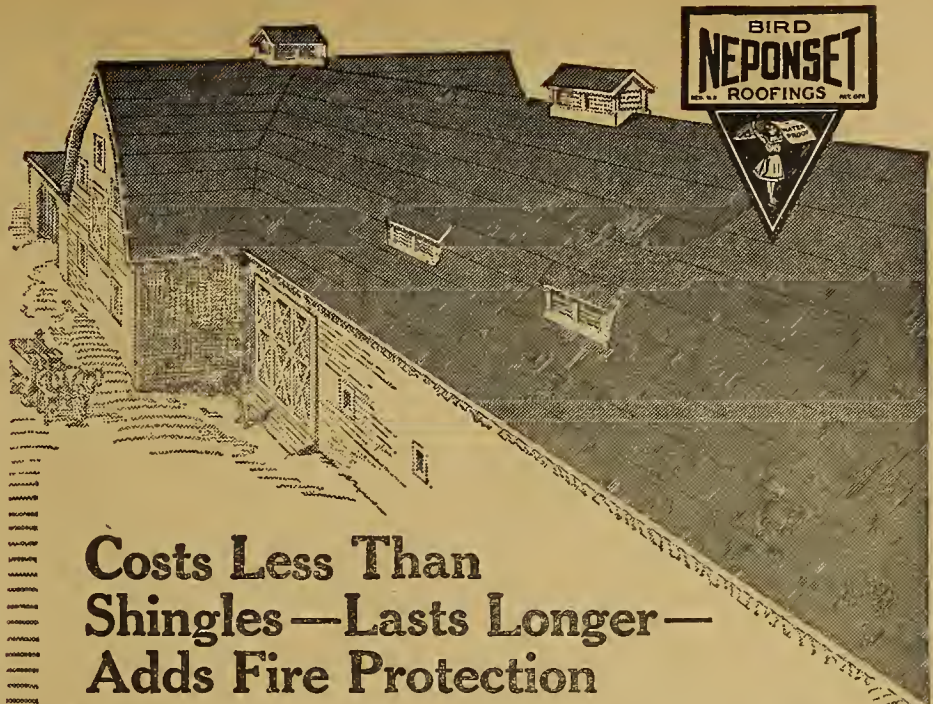
Sitting here, this evening, before the fire, I can intelligently make plans for the future of my orchard. I know that for a commercial success the varieties should be as few as four or five. Before I had studied this catalogue, my plan had been to top-graft all odd kinds over to the more profitable. But now I know that I must go slow, for too many trees would be put out of the bearing class at once. Hiram has told me which are the valuable varieties; I have only to figure out what proportion of trees I can afford to top-graft this coming spring to decide on my work. Thus the thirty-nine non-revenue producers will become, in a few years, raisers of profitable apples. Forty more trees, one, two or three trees to a variety, will be changed over to the successful local variety. If I stopped right here, in a few years my orchard would have a 50 per cent. larger yield of its biggest money-getters, and nearly three hundred per cent. increase of its second best crop.

And had Hiram years ago had set before him the figures which are now before me, he then would have done the same thing. He simply couldn't have stood for the present conditions. This is another illustration of the use of the little red note-book.

HENRY WOLFE.

The Useful Radish

WHEN sowing onion-seed, mix in some radish-seed. It germinates more quickly than onions, and the rows can be cultivated before the weeds are fairly started. Without radishes the rows cannot be seen for several weeks. By that time the weeds will



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Go NOW—you can buy a farm cheap and on terms that will allow the land to pay for itself. On your deferred payments the interest charge will be only six per cent, or less.

Go this Spring, buy forty or eighty acres, even ten or twenty will give you a good living and a surplus, put most of your place to alfalfa—get a few good dairy cows from the man who owns the creamery (he will sell them to you on time) and from the start there will be an income. After the first year the profits from the place will meet all payments—in four, or at most five, years you will be out of debt and the sole proprietor of a home that can be sold for \$250 or more per acre and will bring you a net income of at least \$40 an acre.

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You owe it to yourself, to your wife and to your children to investigate what the San Joaquin Valley offers you. It will cost just 2 cents—for a stamp—to mail the coupon to me.

I will send you the new San Joaquin Valley book—it tells the story of other men's experience.

If you wish, I will tell you just what it will cost you to go and see for yourself. That will convince you.

C. L. Seagraves,
General Colonization Agent, A.T. & S.F.Ry.
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Please send new San Joaquin Valley book, Free.

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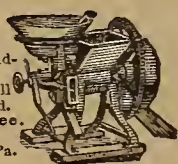
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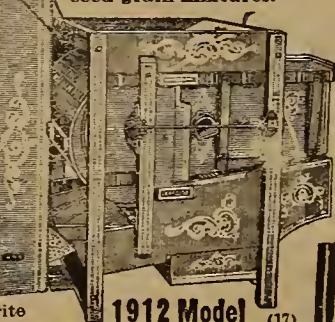
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be so large as to almost hide the small onion-plants. By following this rule we got a good stand of both, and gave them thorough cultivation. The soil had been well enriched and thoroughly prepared and in a few weeks the radishes were large enough to eat, and as there were so many, we decided to sell them. We had no trouble in disposing of them at a fair price. Later on came the onions. With these the profits were not so large as with the radishes. For several years afterward we made a business of raising radishes in this way. We also had good success with cucumbers. We planted them as early as the soil could be prepared and was warm and dry enough. After they were up, if there happened to be a frost, we covered them lightly with hay or straw, and also dusted them with dry air-slaked lime to keep off the striped bug, and watered them well every evening when the weather was dry. In this way we succeeded in having large slicing cucumbers quite early.

MRS. J. P. BURK.

The Codling-Moth

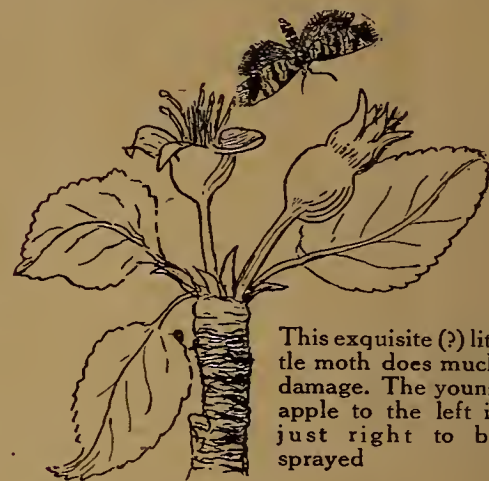
APPLES have played an important part in human history ever since Eve's early mishap brought upon her numerous descendants the necessity of earning their living by the sweat of their brows. And it would seem that as an extra punishment for this folly of our ancestress various insects and fungi have carried the matter a step farther, so that now we have to earn even our apples through a continual flow of our perspiring brows. But, as in many punishments, there is in this a mitigation if we know how to avail ourselves of it; we find that if we learn to work the brains behind the brows, the latter will not have to sweat so much.

Often we bite into an appetizing looking apple, knowing well that the best flavor of an apple comes through biting rather than by cutting with a knife, and we find to our disgust that our apple has been enjoyed by another creature who got at it earlier than we. We are lucky indeed if we get our mouthful of apple simply peppered with the waste matter from the burrow that defiles it and do not set our teeth through the disturbed squirming little interloper himself. If we were able to look dispassionately at this little rascal which has made its house and earned its living in our apple without sweating at all, we should find it a plump caterpillar, of pinkish color with a brownish-head. The first three segments of its body have each a pair of legs and each leg ends in a single claw. But as if these true legs were not enough to carry it on its travels, it also has the third, fourth, fifth and sixth segments of the abdomen furnished with a pair of fleshy prolegs, and, as if to bring up a safe rear, the last segment ends in a proleg that helps it to hold on and push its way in its apple world.

This larva of the codling-moth usually enters the apple at the blossom end and is very likely to make a tunnel down by the side of the core until it reaches about the middle of the apple, and then, feeling entirely safe, it pushes its way into the pulp. The little creature weaves a thread of silk as it goes; maybe it does this purposely, but perhaps incidentally. The spinneret is situated in its lower lip, and wherever it goes it spins "street yarn." In this silk are entangled the pellets of the undigested apple, making a very disagreeable-looking mass. This codling-larva gets its growth, as do all other insects, by shedding its skin as often as it becomes too tight for it. After a time it begins to feel grown up and thinks of getting out into a larger world than its apple, and commences to make a large tunnel out to the apple-rind. Sometimes it will even make a door in the rind before it is ready to go out; if so, it wisely puts a plug of debris fastened together with silk into this exit and thus still has a safe retreat without fear of intruders.

The larva of the fall brood usually leaves the apple before winter. If meanwhile the apple has fallen, it crawls from the ground and up the tree and there under the loose bark it makes a little silken cocoon about itself as snug as you please. If the apple has been gathered and placed in a barrel or crate for shipment, it makes the best of its opportunities and makes its cocoon in the shipping-case. In fact, this little rascal is an opportunist and will use any old board or piece of fence, or anything else around the orchard, or any corner in the packing-room that is convenient for spinning its cocoon. But this little silken house is simply for protection, for this caterpillar, if it makes its cocoon in autumn, does not change its form after it has retired within its silken cell. Quite to the contrary, it stays as lively as ever within its retreat until spring, then it changes its last caterpillar skin and appears as a little, brownish, oblong object quite devoid of legs or wings. A little later this brown shell breaks open, and from it issues a most beautiful little moth with long and delicate antennae and a brown mottled body, with wings ornamented by wavy bands of ashy gray and brown lines; the tips of the front wings are dark brown with a pattern of bronze gold wrought into them. The hind

wings are shiny brown with darker edges and bordered with fringe. Who would have thought that this exquisite little moth could be the cause of the great apple tunnel into our beautiful apple! But her mischief is not complete, for as soon as the apple-blossoms fall and before the calyx of the young apple is closed, she lays her egg in this living cup; not only one egg, but many, and places each in a cup by itself, and then goes on her way apparently well satisfied with her performances. Now right here is where we need to use our brains to some purpose. We must observe carefully just the period when the petals of the apple-blossoms have fallen and before the calyx



This exquisite (?) little moth does much damage. The young apple to the left is just right to be sprayed

lobes close and protect the iniquitous little egg. If we spray our trees with any of the Paris green or arsenic solutions at this time, then the caterpillar that hatches from the egg gets a dose of poison with its first breakfast and troubles us no more. But if the calyx lobes close, the little worm finds nothing to disagree with it when it takes its first meal, and works its way into the apple. And after that we can spray until our brows drip and the codling-caterpillar is none the worse for our efforts.

Nor is it often so simple as this, for in most localities the codling-moth develops a second brood in early summer; and the moth, finding no fit place in an old apple-blossom in which to lay her eggs, deposits them upon leaves or upon the sides of the young apples. Thus the larvæ of the second brood mar the surface of the apple and push their way into the pulp through the side. The entomologists now are busy with many



Getting at the heart of the apple

experiments, trying to ascertain at just what time in the summer the trees should be sprayed so that these newly hatched larvæ may be poisoned before they are safely hidden within the apples.

There is another excellent way to get even with this pest of our orchards; that is, to keep the orchard clear of hiding-places for the cocoons. Take away all old board-piles, fences and trash, and keep the trunks of the trees clear of large flakes of bark. Then coax to the orchard by means of bits of beef-fat those greatest friends of the farmer and orchardist: the chickadees and nut-hatches and woodpeckers. The way to do this is to tie strips of beef-fat five or six inches long by an inch and a half thick to the branches of the trees. The birds will go to the feast and will stay to labor for their host, and they will not only hunt out the codling-moth larvæ from their cocoons, but they will attack the canker-worms and the eggs of the tent-caterpillar, and, in fact, will spend their time fighting our enemies for us. This is no theory. It has been tried in many orchards in the East, with check experiments in neighboring orchards, and the results have been remarkable.

The codling-caterpillar injures the fruit in many ways: the apples are likely to be stunted and fall early; the apples rot about the injured places and thus cannot be stored successfully; apples thus injured look unattractive and therefore lose in market value; the wormy apples packed in barrels rot and contaminate all the neighboring apples. Nor does the codling-moth confine all its energies to apples. It also attacks pears and sometimes peaches.


And how much do you suppose New York State alone pays every year for the privilege of having these insects live happy lives in their apple crop? This has been estimated at three million dollars per year; and if New York pays this much for having wormy

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Crops and Soils

Commercial Fertilizers

Whether It is Best to Use Those That are Home-Mixed or Not—the Opinions of Authorities

ONE of the serious problems confronting the American farmer in almost every State is whether or not to use the fertilizer advertised and sold on the market which contains all of the feeds needed by the plants for their growth, or whether to secure the various foods needed and mix them at home. Bulletins from many of the agricultural experiment stations give some light on the problem from their standpoint. Prof. Chas. D. Woods, Director of the Maine Experiment Station, in a circular which he published a short time ago, asked

the question: "Why use home-mixed goods?" and then he says:

The reasons for and against home mixing are few and easily stated.

In general, if considerable quantities of fertilizers are used, there can be a considerable saving in the purchase.

When separate materials are purchased, there is less likelihood of being deceived. This does not apply, however, with very great force when the goods are purchased from the well-known and reliable manufacturers.

In home mixing the farmer can readily change the mixture so as to more nearly adapt it to the requirements of different crops. While the manufacturers do this to a considerable extent, it rarely happens that a farmer growing several kinds of crops takes advantage of this fact. He usually employs the same brand regardless of the crop, whether grown on a clover turf or with or without farm manure. This leads to the most important reason of all for home mixing, stated in the next paragraph.

There is a great educational value in home mixing. The use of an unknown mixture gives little information, and the farmer that has for years used ready-mixed goods knows but little more as to the needs of his land and crops than when he began. The purchase of unmixed goods will lead to an intelligent use. It is impossible to imagine an intelligent man using unmixed goods on different crops and soils through a series of years without coming to a fairly clear understanding of the chemical needs of the soil and crops, even though he may know nothing of the principles of chemistry. It is furthermore equally difficult to conceive of such a man using unmixed goods year after year without being impelled to study and to read. Just as hundreds of skilled, intelligent feeders have been developed by reading, study, experiment and observation, so equally scientific users and conservers of plant-food would be the result of intelligent home mixing.

Two reasons are commonly advanced against home mixing:

On small purchases there is little or no saving. This is a matter of dollars and cents, and inquiry as to cost of materials, and the same weights of plant-food ready mixed, will enable anyone to answer the question of economy for himself.

It is also claimed that owing to the lack of proper facilities the farmer cannot mix as well as the manufacturers. That he can do so with a tight barn floor and no other implements than a shovel, a screen and a rake has been shown over and over again in every State in the East and South.

His viewpoint seems to be strongly in favor of home mixing. This same idea is maintained in a bulletin published by the agricultural experiment station at Burlington, Vermont. This bulletin bears the number 160. Dr. J. L. Hills, the director of the station, says, in referring to the work that he has done in inspecting many licensed brands of fertilizers now on the market: "The average selling price was \$31.41; the average valuation, \$19.53. One dollar in three spent for mixed fertilizers was paid to the manufacturer, railroad and selling agent for their work, while but two of the three were paid for plant-food. But fifty-six cents' worth of plant-food was bought for a dollar in average low-grade goods. The average high-grade brand, however, afforded sixty-five cents' worth for a dollar. Some Vermont consumers paid fully twice as much for plant-food as did others."

The following statements from well-known men of authority give due emphasis to each side of the question.

Difficulties Either Way

I think it is generally true that the more extensive and more intelligent users of fertilizers in this State prefer to purchase the raw material and mix to suit their peculiar conditions. It is probably true that the total amount of mixed fertilizers sold exceeds considerably the amount of raw material purchased for home mixing. This is because so many of the small farmers, and usually the less intelligent farmers, prefer to buy their fertilizers mixed; or perhaps I should say, *do* buy their fertilizers mixed. The most serious objections offered to factory-mixed fertilizers are:

1. The farmer pays for the filler, the labor of the mixing and the freight on the filler.

2. The majority of prepared fertilizers are mixed with a view to satisfy the buyer's notion of economy, and hence, even though the proportion of plant-foods might be correct, the total amounts of the several plant-foods per hundred pounds of fertilizer is low.

3. In the majority of cases the proportions are probably not correct. This fact is shown in the great range of proportions in fertilizers offered by different companies for the same crop. To illustrate: The "Home-stead Sugar-Beet Fertilizer" is a 1.23-9-2; Armour's "Sugar-Beet Special" is advertised as an 0.82-8-4 fertilizer; while Stengel Bros.' "beet-sugar fertilizer" is guaranteed to be a 3-7-6. Among wheat-fertilizers we have the range from 2-8-1.5 to .82-8-4. One wheat-grower contains 12 per cent. available phosphoric acid and no nitrogen and no potash. Another contains 10 per cent. phosphoric acid, 2 per cent. potash and no nitrogen. If the farmer knows exactly what he wants and can find it upon the market, I presume we should concede that that is his business.

The writer questions very much whether many of the formulas used are nearly correct

for the conditions as they are found in Michigan. The most serious objections to the home mixing of fertilizers are:

1. The difficulty that most farmers will find in thoroughly mixing the materials used. The ingredients are likely to be more or less lumpy and when pulverized by ordinary methods are still likely to be somewhat coarse; then farmers who use commercial fertilizers have not the floor room for mixing.

Frequently a grinder would be helpful in pulverizing and mixing, and they do not have the grinder.

2. Farmers do not always have filler material at hand, and when they do have the filler material in the form of peat or muck, they are uncertain as to the methods of drying and mixing.

3. Many farmers are lacking in a sufficient knowledge of arithmetic to mix their materials to obtain the proportions they need; and many farmers are without the scales necessary for the weighing.

Because of these difficulties, our farmers are spending a lot of good money.

J. A. JEFFERY, Michigan.

Study Your Conditions

The question as to whether home-mixed fertilizers or factory-mixed fertilizers would give the better results depends entirely upon local and definite conditions. Where you have a combination of fertilizer elements that cake or solidify after being combined, it is quite probable that the factory-mixed material would be preferable to the home-mixed fertilizer. The factory would mix the fertilizer elements evenly and then after they have caked would run them through their grinding apparatus and so deliver them to the consumer in a condition ready for use.

On the other hand, where we have materials to mix that do not cake, but are in a condition to handle easily, there is very little advantage in having the material mixed by the manufacturer, the charge made by the manufacturer for mixing being considerably more than the cost of mixing at home where the farmer is already prepared to do the mixing. For mixing at home the farmer needs a good barn floor at least eight feet square, and to provide himself with a plasterer's screen, a shovel and a good reliable scale. This is all the equipment necessary. Then by running the fertilizer separately through the screen, then mixing them and again running them through the screen one will be able to have a very uniform product. If a farmer wishes to make such combinations as sulphate of ammonia, sulphate of potash and acid phosphate, it is quite certain that it would be better for him to have the materials mixed in the factory, since this material is likely to solidify after mixing and cause the farmer a considerable amount of trouble and hard work to reduce to a finely ground powder. Of course, if the material is to be applied to the soil immediately, no caking will take place.

P. H. ROLFS, Florida.

A 1-8-2 Fertilizer

The most effective carriers of nitrogen, phosphorus and potassium in commercial fertilizers are nitrate of soda, acid phosphate and muriate of potash. Nitrate of soda and muriate of potash are coarse, brownish salts, somewhat resembling common salt that has been colored by iron-rust. Nitrate of soda is mined in Chili and in its commercial form carries about 15½ per cent. nitrogen, equivalent to nearly 19 per cent. "ammonia," and muriate of potash carries about half its weight in so-called "potash."

Acid phosphate is manufactured from phosphatic rocks found in Tennessee, South Carolina and Florida, which are ground to a fine powder called "floats," and then mixed with about an equal weight of sulphuric acid and allowed to lie in heaps for some time, after which it is re-ground, sacked and sold, sometimes for what it actually is, acid phosphate or superphosphate, often under some proprietary name, such as "Horsehead Phosphate," "Dissolved Phosphate," "Alkaline Phosphate," "Soluble Phosphate," "Black Diamond," etc., to mention a few of those found in the Official Bulletin of the Ohio Department of Agriculture for August, 1911. In short, any fertilizer claiming to contain 10 to 16 per cent. available and 1 to 2 per cent. insoluble phosphoric acid and neither nitrogen nor potash may safely be taken as a plain acid phosphate.

These three materials have passed through different processes of manufacture; the nitrate and muriate have been refined from crude materials, and the acid phosphate has been ground, mixed with sulphuric acid—itsself a manufactured product—and re-ground. In so far as these materials are concerned, they have passed through all the manufacturing required to put them in shape for use. The next step is simply to mix them together in such proportions as to produce the desired percentage in the fertilizer, and this mixing can be done on a barn floor—a dry, hard dirt floor is good enough—all the tools required being a shovel, a sieve to sift out the lumps which will be found in the nitrate of soda, which acts like common salt in this respect, a box or barrel and a wooden pestle to serve as a mortar and pestle for pulverizing these lumps. Of course, a steelyard or platform scale will be

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but the rich, sweet, juicy ones are those that had plenty of available

POTASH

to insure normal ripening with rapid sugar formation.

The right kind of fertilizer is a good investment. The vines will continue to bear melons of first quality instead of yielding only one or two pickings and then a lot of unmarketable culls.

Supplement the compost with 1000 to 1500 pounds of 5-8-10 goods, the ammonia to be derived mainly from organic substances like blood, tankage, fish or cottonseed meal.

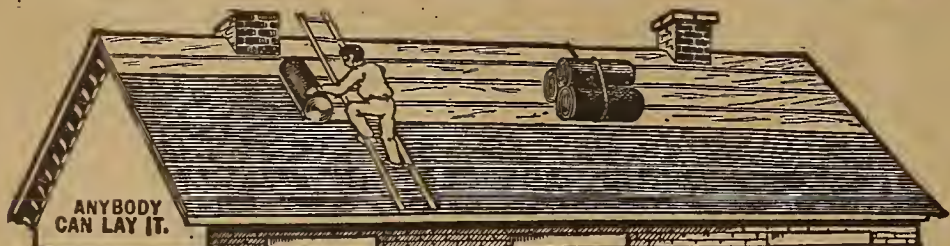
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a convenience, but as the materials will come in weighed sacks they may be put together by sackfuls so as to get a fairly accurate mixture.

Having these materials, let us mix a 1-8-2 fertilizer, a grade which is very often sold. Such a fertilizer would carry 1 per cent. "ammonia," or 20 pounds in each ton; 8 per cent. "phosphoric acid," or 160 pounds to the ton, and 2 per cent. "potash," or 40 pounds to the ton. One hundred and ten pounds of nitrate of soda would give us a little more than 20 pounds of ammonia. One thousand one hundred and fifty pounds of 14 per cent. acid phosphate—the standard grade—would furnish 161 pounds of phosphoric acid, and 80 pounds of muriate of potash would carry the 40 pounds of potash required. Altogether, we would have used but 1,340 pounds of material to give us the constituents required for making 2,000 pounds of a 1-8-2 fertilizer; the remainder of the 2,000 pounds, or 660 pounds, may as well be common dirt from our own fields as dirt shipped to us from Chicago or Buffalo or Baltimore with charges for collecting and freight added.

Nitrate of soda is now offered for delivery at Ohio points at \$5.50 per sack of 200 pounds, and muriate of potash at \$4.60 for the same quantity, and 14 per cent. acid phosphate can be purchased of any local fertilizer dealer at \$16 to \$18 per ton, while persons who club together and buy by the car-load get it at from \$14 to \$15. Taking the prices above quoted, a ton of home-mixed 1-8-2 fertilizer would cost as below:

110 lbs. nitrate of soda, at \$2.75 per 100	\$3.03
1,150 lbs. acid phosphate, at \$18.00 per ton	10.35
80 lbs. muriate of potash, at \$2.30 per 100	1.84
Total	\$15.22

Half a dollar per ton will more than cover the cost of mixing, and the farmer who purchases these materials and mixes for himself, may be sure that he has used the most effective carriers of the different fertilizing elements.

It is, of course, unnecessary to put in the dirt "filler" required to bring this fertilizer up to 2,000 pounds. Simply use less of it. Because of the tendency of nitrate of soda to absorb moisture it is well to use the fertilizer within a few days after mixing; with this precaution it may be applied without difficulty through the fertilizer-drill.

Nitrate of soda is not used in ready-mixed fertilizers, for the reason that nitrogen can be bought more cheaply in dried muck, tankage and other slaughter-house refuse; but while such nitrogen-carriers are cheaper to the fertilizer-mixer, they are dearer to the farmer.

CHARES E. THORNE, Ohio.

High-Quality Corn

LAST November, when the American Land and Irrigation Exposition was under way in the City of New York, more than usual interest was manifested in the growing and showing of corn. It was my good fortune to win the \$1,000 silver cup which was offered by the International Harvester Company for the best thirty ears of corn grown in the United States. Nearly every State in the Union was in the race for this prize, and so I feel that no little honor was connected with the work that I did. I say "honor connected with the work that I did" for the reason that I do not believe that the honor rests alone in the receiving of the prize.

Our farm of six hundred acres lies in the south central portion of Virginia near the Southern and the Norfolk and Western railroads. Last season, despite the fact that there was so much dry weather during the midsummer, our corn yielded 137 bushels to the acre.

The land which produced this particular corn was plowed late in the fall of 1909 with a number eleven William J. Oliver plow, and was subsoiled in the same furrow with an Oliver subsoil plow. The hardpan was broken down to a depth of about eighteen inches in this way. However, the surface soil was kept at the surface. Right after plowing, the land was thoroughly limed with unslaked lime, two tons being broadcasted per acre. The corn was drilled in the usual way, and a thorough cultivation kept the growing stalks in good condition. At the last working in August crimson clover was seeded. In the spring of 1911 this was turned under and 200 pounds of Thomas phosphate were broadcasted. Corn was again planted, and when it was knee high, two hundred more pounds of the phosphate were used between the rows. At the last working crimson clover was sown, as before. This corn was cultivated five times with a riding-cultivator and then three times with a walking-cultivator. At first the cultivator was set for a depth of three inches. This depth was made less each cultivation until when the clover was sown the cultivators were not running more than a half inch deep.

In 1910 when the crop began to tassle I went through and detasseled every other row, in order to insure a large amount of crossing. This year I used Boone County

corn for the female and Johnson County corn for the male, and thus secured the results which won for me the prize.

I have won prizes before and my neighbors have won prizes. This fact, coupled with the fact of high yields all through the South, leads me to believe more and more in the South as a general farming country. What has been done on my farm and on the farms of my neighbors can be done on almost any farm of this country, for there is little difference one farm with another. In 1905 I purchased this farm for ten dollars per acre. Now the value of part of the farm is one hundred dollars per acre. However, because of the lack of improvements on much of the land about here, the price is often not more than fifteen dollars to thirty-five dollars per acre. I believe there are great possibilities in this southern land.

W. H. DORIN.

A High-Yielding Corn

ON MARCH 21, 1909, I received eight ears of Reid's Yellow Dent corn from Professor M. F. Miller, of the Missouri Agricultural College. These ears were planted in a plot to themselves at a proper distance from any other variety. Each ear was in a separate row.

At harvesting-time, which was September 26th here in Missouri, the product from each ear was husked and weighed, and it was found that ear number seven yielded 37.9 bushels per acre and ear number four yielded 27.2 bushels per acre, making a difference of 10.7 bushels per acre. Had the entire crop been planted from a strain that yielded like number seven, an increase of 321.5 bushels would have been gathered.

According to the score-card, ear number four was much the better, and had I been selecting seed for the main crop, I would have chosen number four first.

Nothing could be discovered that caused number seven to surpass all the rest, but it some way possessed higher yielding characteristics which the naked eye was unable to detect. There was a noticeable difference in the growth and amount of foliage pro-



Ten ears of corn which won

duced by each ear. Some ears produced very high stalks and others low ones. The low ones were the first ones to mature.

Being unable to see the cause of number seven's high yield and knowing that no one could tell how much an ear would produce without testing it, I planned to test twenty-five ears the following season. Ears of different types were selected, numbered and a careful description made of each ear. A few kernels from each ear were planted (forty hills) on a plat of soil even in fertility. Of course, a perfectly even piece of this size could not be found, so, to see what the difference might be, every sixth row was planted out of the same seed. These were called check-rows and by using them the exact amount each ear would have produced, had the plot been even in fertility, could be determined.

On October 4th, the usual time I gather the seed, the yield of each ear was determined, showing that the five highest yielding ears yielded 17.24 bushels per acre more than did the lowest yielding five ears. The only noticeable difference in the type of these ears was that the highest yielding five ears had a slightly rougher indentation.

After completing the test, nine of the highest yielding mother ears were selected and planted to produce seed of a higher yielding character. This seed was to be planted to produce the main crop. Each season there is selected from the highest yielding strain from twenty-five to fifty ears to be tested for seed for the main crop.

By using such methods to increase the yield, it is possible to raise the yield at least five bushels per acre each season the first few seasons. Then, of course, the margin will become closer and the increase smaller.

This past season, the highest yielding strain, the one I am breeding, yielded at least ten bushels more than the original



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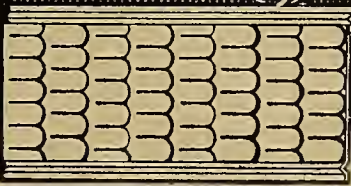
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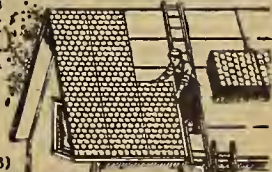
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strain. Last season twelve acres produced \$300 worth of seed which sold readily.

We should not neglect the quality of our corn, because quality counts, also. It counts faster than quantity when exhibited in the show rings. **J. ROBT. HALL.**

EDITOR'S NOTE—This practical story is one instance among many which go to show how deceived our eyes may be. To test the corn is the practical method—and the test should go further than the germination-box. The yielding powers should be determined. It is very little trouble to shell off a few kernels from each ear and plant those kernels in a labeled individual row. And then the fact that imported seed cannot be trusted makes this home testing necessary if maximum yields are expected.

Home-Mixed Fertilizer

THE usual argument urged in favor of buying ready-mixed fertilizer is that the manufacturer has machinery and can mix the materials cheaper and better than the farmer can do it on the farm. Perhaps this is true, but the question is, do they do better work? Looking over Bulletin No. 263, issued by the Michigan Experiment Station, I find a variation in value of samples of fertilizers of the same brand taken from different concerns of \$1 in one brand, while another showed a difference in value of two different samples of \$1.85, another brand varied in value \$2.37, another, \$4.37, another showed a variation of \$5.47 and still another, \$6.50.

The manufacturers' guaranteed value of the brand that showed the difference of \$6.50 was only \$14 per ton and the highest guarantee of any of the brands compared was \$29 per ton, most of them guaranteed to be worth more than \$20. These figures prove that the manufacturers are not very accurate in mixing their fertilizers in actual practice. Any farmer with a knowledge of the actual value of his chemicals could make a more accurate and uniform mixture with such implements as he has. I have compared the value of a number of complete fertilizers sold in this county with the retail value of acid phosphate and other chemicals used in mixing fertilizer, and I find that the plant-food in the mixed goods costs from \$4 to \$8 per ton of fertilizer more than the materials would cost if bought separately. There would be only a saving in the cost of the materials by home mixing, but that practice would save freight and hauling on a large amount of filler. Then another point is that the farmer could mix a fertilizer better suited to his soil than the manufacturers would likely do since the farmer has a better opportunity to know the needs of his soil. **A. J. LEGG.**

As to Manure

IN THE advertisement of a certain line of manure-spreaders, the advice is offered to farmers to take the manure to the fields and spread it. If this is done and the manure at once plowed in, the advice is good; but if left on the ground, it will by spring become valueless save as straw. Anyway, it is the long unrotted manure that should be used in this way; the short well-rotted portion should be removed from the sheds, put under cover and the new stuff removed from under the cattle as it becomes rotted, added to the heap under cover, with the longer stuff placed on top. It is well to top it all with a light layer of fresh straw, and perhaps once a month to wet it well down with the urine, if you have it tanked, or with water. You can use this manure to advantage when you plow, either in fall or spring. In either case, it should be covered in lightly with the plow, or it will in most cases lose its efficiency. **J. P. ROSS.**

Farming Without Stock

FOR about ten years the writer has been conducting his one-hundred-and-sixty-acre Michigan farm upon a system which eliminated live stock as far as possible. A few horses have been raised with a view to keeping the horse stock good upon the farm, one or two cows are kept to supply the household with milk. This, with a small flock of chickens, constitutes our equipment of live stock.

Although fully aware that this system is frowned upon by a majority of the advanced agriculturalists, we are also aware that hundreds of thousands of farmers in this country are farming with a minimum of live stock and that it must always be so, for were all farmers to devote their attention to the production of animal products, the prices of such products would be reduced to a ruinously low figure; they are hardly high enough now in comparison to the prices of labor and feed-stuffs.

For a number of years after the writer became a farmer he followed a system of general stock farming. He had had no previous experience as a farmer and all of the instructions from agricultural colleges, experiment stations, farm papers and experienced farmers which he could secure pointed in the same direction—that is, stock farming. It seemed to be accepted as axiomatic that the fertility of the soil could be maintained in no other way than by feeding a large amount of live stock upon the farm products and returning the resultant manure to the soil. The question of how to maintain and increase the fertility of the soil seemed to have but one answer, "get stock."

The particular incident which started us wondering, also figuring, was once when we sold navy beans and hogs on foot for the same price pound for pound.

Not being a live-stock enthusiast—that is, not being willing to do the very large amount of routine work which the chores on a "well-stocked" farm necessitated, for the sake of the company of the live stock, and becoming convinced that we could do at least as well financially by raising cash crops—we resolved to try farming with as little live stock as possible and at the same time to maintain and increase if possible



Root crops are often increased in feeding value when properly ground

the productiveness of our soil. Up to date every indication is that we have been successful.

While we do not wish to say a word to discourage live-stock husbandry, we say what we do in the hope that it may help some of the vast army of farmers who are working much as we are, to do better by their farms, themselves and their families.

The physical condition of a soil has a tremendous influence upon plant growth, and the most important consideration in this connection is drainage. Drainage, natural or artificial, is essential in any system of cropping with which I am familiar, and discouragement if not actual disaster will camp on the trail of the farmer who attempts to follow a rotation of crops upon a poorly drained soil. Good drainage is the key-stone, and without it, no matter if all other conditions have been supplied with greatest care, the crop is in constant jeopardy and the chance of securing the full benefit of our painstaking work is very small indeed. While with drainage is usually associated the thought of getting rid of surplus water, a well-drained soil can be handled in a manner to conserve the moisture for the use of plants to a much greater extent than in a poorly drained soil. It will also be warmer and in a far better mechanical condition. A proper physical condition of the soil is to the plant what a comfortable stable is to a dairy cow and then some.

A generous supply of vegetable matter is also essential if we are to have a proper physical condition of the soil, and no matter what system of agriculture is followed, this must be looked after. This is the danger-point with the stockless farmer, but there is also a danger-point here with the stock farmer, for he in times of pasture shortage is very apt to pasture his new seeding, his meadows too short and to let his stock run on the fields when they are muddy, a practice which is especially bad on clay land.

After the question of the proper physical condition comes that of the actual plant-food supply: the nitrogen, phosphoric acid and potash. Scientists tell us, and history seems to prove their contention, that there is a vast store of plant-foods in soils ordinarily regarded as agricultural, in a more or less available form which is slowly

Farm and Fireside, March 16, 1912

becoming available. This is a splendid provision, as it is evident that, while a naturally good soil by improper system may become sadly depleted of fertility, it cannot be ruined. The Creator thus made it impossible for a few generations to jeopardize the food-supply of the future.

Thorough and timely tillage not only assists in giving us a good physical condition of the soil for the reception of the seed and the growth of the root system, but it also makes fine the earth, so that the root hairs can "get next" to the elements of fertility. The absence of fences on the stockless farm makes long rows and long bouts possible, thus cheapening tillage.

The use of commercial fertilizer we have found to be profitable and satisfactory. Soils vary, some being stronger in one element, some in another, and by the use of commercial fertilizer the proper balance can be obtained.

On my soil, which is a clay loam, phosphoric acid is the element in the fertilizer to which the crops respond in largest degree. Root crops call for phosphoric acid and potash. However, I use a complete fertilizer low in nitrogen on all of my crops, as it gives a very strong early growth.

A. B. COOK.

We want more farmers' unions by whatever name they may be called.

A good crop of barley will bring a golden harvest to those who have the right soil: a sandy loam.

When to Plow Deep

AVAST expanse of fertile level prairie (covered mostly with short grass in its wild state) is to be found in western Kansas and Nebraska, the Panhandle of Texas, eastern Colorado, eastern New Mexico and western Oklahoma. These are the fertile plains of the Southwest that have in many places been settled and depopulated several times. Still it seems as though these plains have an irresistible lure that draws men regardless of a past history of failures.

This is the country that some people believe to be the best, and from that down one can get all sorts of opinions about the country. But why this diversity of opinion and the many failures? Let us take a look at the country and see how the farming is done.

Every new-comer's ambition is to buy all the land he can, and next he tries to farm as much as he can at the least cost per acre. In case of failure, the loss per acre is small, and if a bumper crop develops, his profits are enormous. Summer tilling in this region is very rare. Corn, Kafir or maize is listed and given one or two cultivations. This ground is either seeded to winter wheat in the fall or spring grain sowed in the spring without any seed preparation. After wheat-harvest is over, plowing generally lasts until seeding-time; the plowing is shallow and receives no afterwork, except a harrowing just before seeding. That is the last attention the wheat gets until harvest, if it makes a crop at all. Some farmers work so much ground that they do not even have time to plow it all, and a large acreage receives no further preparation than a double disking. In some of the older districts these shiftless methods have given place to a real system. Briefly, it consists of this:

Right away after the harvest the ground for next year's wheat is double disked, and when the whole acreage has been covered, it is all listed. This done, the lister ridges are worked down with a four-horse two-row listed-corn cultivator and leveled with a harrow. Weeds are kept down, some moisture is conserved and a good mellow, though shallow, seed-bed is prepared by this method. Although this system gives fairly good results, there is room for much improvement. The chief improvement needed is summer tilling and deep plowing. So far, deep plowing on the great plains of the Southwest has not been very popular, chiefly because the plowing was done just a little while before seeding and no sub-surface packing done to firm the seed-bed.

Summer tilling every other or every third year would be the means of producing more bushels per acre in ten or fifteen years than cropping every year; the work would be more evenly distributed throughout the year, and the droughty season, so disastrous before, would not now interfere with the accumulation at the bank.

Ground that has been in Kafir, maize or sorghum is best to leave for summer tilling, because these crops are on the ground later in the fall and more completely exhaust the soil of its moisture than other plants do, and consequently leave the soil in a poor condition for a succeeding crop.

During the winter or early spring the ground should be plowed at least seven or eight inches deep and harrowed if there be any moisture in the soil to conserve, otherwise the ground had better be left rough, so as to better catch and hold the rains. I advise deep plowing only for summer-tilled ground. Keep the weeds down and maintain a three-inch mulch until wheat-seeding. This mulch should not be dust mulch, because such a mulch puddles easily during a shower and the winds are liable to blow it about.

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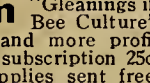
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J. S. CRAWFORD,
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Farm Notes

A Bucolic Symphony

THERE is a farmers' club in New York City—perhaps more than one. The following poem was read by its author, Mr. Henry Marquand, at the annual dinner of the Farmers' Club of the University Club of the city of New York. In view of the fact that one of the requirements of membership in the club is the ownership and actual farming of a hundred and thirty acres of land, the poet may be assumed to have written out of a full heart.

EDITOR.

The music that the country yields
Falls sweetly on the ear.
Whether of woods or farm or field,
'Tis goodly for to hear.
No strain of lyre or stringed lute
Transcends the creak of farmer's boot.

How proud the cock-a-doodle-do
Bursting at dawn of sun,
Which only breaks our dreams in two
And bids us slumber on.
You hear the tardy cluck of hen;
It's time to doff pyjamas then.

In summer, ere the corn is ripe,
The grasshopper lifts his lay;
We listen to his cheery pipe,
Loitering on our way.
But science says this tenor sings
By scratching legs against his wings.

List to the woodpecker's wild tattoo,
Its cadence and its rhythm;
It must be that his time is true,
For my heart is beating with 'm.
Oh, I could stand for hours to hark-
En to this lively fugue of bark.

The frogs they have their wooing hour;
He makes his little joke,
She listens in her slimy bower
And swallows every croak.
'Twould melt a heart of stone to pulp
If man could utter such a gulp.

The humblest creature cannot fail
To answer nature's laws;
I've seen the ebullient crow turn pale
When pleading of his cause.
And as his heart is in his throat,
When he proposes, 'tis by note.

Come where the honey-bee holds sway,
And watch the happy drone;
To love and song he gives his day,
His night to love alone.
Nor will he cease his merry bout
Till union labor throws him out.

Then queen and toilers ply their song
While fashioning the comb;
They sing together all day long
To make their Home-Sweet-Home.
'Tis christened Charity by some,
For Charity begins to hum.

There's music in the piney swale,
At least it has its pitch,
And each man's orchard has its scale,
Of whom I'm one of which.
The healthy farmer's constant care
Is but to take and keep the air.

The town and country live at strife
With all the usual spats;
The country has the sharps of life,
The city has the flats.
But, as in business oft 'tis found,
The underlying state is sound.

So Nature hath her symphony,
Though 'tis not played with strings,
To make mankind exult with glee
And angels clap their wings.
And with each various moving thought
Some deep and deadly truth is wrought.

Then to your soul this lesson lay,
Its admonition heed,
Experience hath one thing to say
According to your need.
Though farming casts a potent spell,
It never pays to farm too well.

Why are Farms Abandoned?

MUCH has been written about the abandoned farms of the country, particularly those of New England. But those people who call a farm abandoned, simply because it is on the market, might as well call any business abandoned, for the same reason. It may be that the present owner has failed to get a good living out of it. He may have tired of the work. He may wish to change his occupation. He may have grown old and have no son to carry on his business. He may even have died. Any one of these causes might place a farm on the market, and any one of them might allow the property to depreciate in value through neglect.

The real abandoned farm is sometimes found, but infrequently. I have in mind such a farm. It lies ten miles from a railroad, and is reached by climbing an almost impassable hill road. The land is of good quality so far as soil is concerned, but is

rough and stony. It must have been a very hard farm to work, yet someone set about the home some good fruit-trees, which, unpruned and unsprayed, were dropping down their red or golden treasures from loaded boughs upon the green sward beneath. Someone evidently started to make here a permanent home, in this rocky, hilly place. The barn has fallen, and the old house is not used for any purpose. The land is pastured, and much of it has come up to spruce, fir and pine. In a few years this land will yield a harvest of lumber. No doubt a man with vigorous health, some capital and good business ability could have gained a livelihood on this farm, but why should he waste time and labor here, when there are farms enough that are well situated and easier to work? The day may come when the demands for farm products may make it necessary to cultivate such land, but not so now.

No farms of any size produce what they should. One reason for this is that, in order to equip a farm in proper shape for up-to-date intensive farming, more capital is needed than the average farmer possesses. He is shy of going in debt, for he knows that when he pays the interest and taxes out or what he gets of the consumer's dollar, there will be little left beyond a meager living. He has seen the experiment tried more than once, and result in failure.

Another prolific source of poor farms is the scarcity, high wages and unreliability of



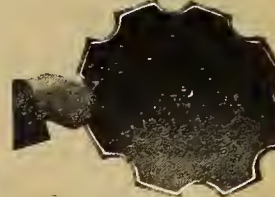
This farm is now abandoned—the buildings have burned, and the owner gets what he can from the timber

farm help. Often the work that the help do will not produce enough money value to pay the laborer. Years ago the sons and daughters labored on the farm until they went to homes of their own. Now they are in school from their babyhood, almost, until they go into business for themselves, and this often educates them away from the farm. This would not be so if there were as much money in farming as in other callings.

The young seldom stop to put a true value on the unreckoned advantages of a farm home. They prefer a cash value and seek it in other callings. There is much that is attractive in a farm life, if one can be free enough from the eternal grind of hard labor. I realize fully that the day-laborer in the village works less hours, is more free from responsibility, his family have better clothes, attend more amusements, have more leisure and buy more luxuries and notions than does many a farmer and his family. The farm-hand gets his board, lodging and laundry, in addition to his wage, while the man that hires him gets what is left, which is often much less than he has paid the man. As long as the above enumerated conditions continue, there will be deserted farms, abandoned farms and farms for sale. MRS. J. W. MATHIE.

To crush the clods around the corn as it comes up in the lister-rows, drive a corn-planter down the furrows, keeping the wheels right along the rows where the corn comes through.

FORGED DISK BLADES

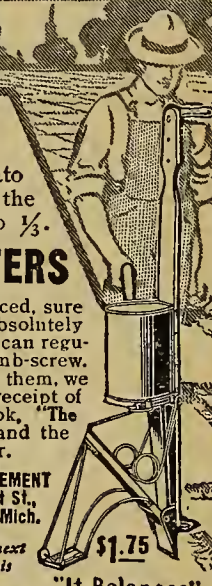


There is as much difference in the quality of the material used in the blades of disk harrows as there is in pocket knives. Some knives are made to sell at ten cents and others at a dollar. Many disk blades belong to the ten cent pocket knife class, but are worked off on buyers with the rest of the machine at the same price for which the best are sold. Consequently, the farmer cannot be guided by price.

The Cutaway Harrow Co. has built its remarkable reputation largely by the quality of the disks on its tools. It has had a real sincere ambition to give to the farmer the best disk blade he could buy. Their motive for so doing has been as much one of pride as of profit. The latter came because the policy of high quality paid.

Their one object has been constantly in view—the best blade possible. To accomplish that, forging the edges became a part of the process. Now all Cutaway Harrow Co.'s disk blades are forged. If you don't fully realize the advantage of forging, ask your blacksmith why a forged edge is better than any other. He will tell you why no other method is so good. This forged edge feature shows how the Cutaway Harrow Co. is doing the things necessary to produce the best tools. It is an indication of merit throughout every tool they make. Every buyer should demand Cutaway forged disks. They cost no more, and are many times better. If you will write them at 854 Main St., Higganum, Conn., they will send you complete information on the construction of Cutaway machines. It would pay every farmer to give them his ear. Write a post card today.

ACME PLANTERS



Light, Dependable and Sturdy

Acme Corn and Potato Planters will cut the work of planting to 1/3.

are handy, well balanced, sure in their action and absolutely accurate in drop. You can regulate drop with the thumb-screw. If your dealer hasn't them, we will ship, prepaid, on receipt of price. Write for book, "The Acme of Potato Profit," and the name of nearest dealer.

POTATO IMPLEMENT CO., 308 Front St., Traverse City, Mich.

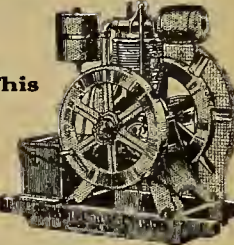
See that your next planter has this trade-mark.

\$1.75

"It Balances"

\$750

And You Keep This Great Chilled Cylinder Engine




The rest in the easiest monthly payments.

We send you the engine on free trial, to prove to you that it is exactly what you want. 10 days' free trial. Send it back at our expense if not pleased. Free Book, "How to Use Power." Send name and address and get free book and all particulars of this great offer.

Schmidt Bros. Co. Engine Works
Department 4033 DAVENPORT, IOWA

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Special Offer: 100 plants of my famous Norwood or Heritage varieties \$1.00, prepaid. Dozens of other varieties; big yielders. True to name. Ornamental Trees, Fruit Trees, Small Fruits, Vines, California Privet, Spray Pumps. Free Catalog.

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131 Sycamore Street, Coldwater, Ohio.

My Ideal of a Car

Built to Justify Men's Faith in Me

By R. E. Olds, Designer

Reo the Fifth—My Farewell Car—in every detail marks the best I know. And I have spent 25 years in this business. If any man can build a better car, he's a better man than I.

Not for \$1,055

Many able designers say the best in a car can't be given for \$1,055.

And I almost agree with them.

Reo the Fifth was not designed to sell at this altruistic price. I fear that this price, in the long run, is impossible. It will doubtless be advanced.

But this much I assure you.

So long as I direct the making, this car will embody the best I know, regardless of price or profit.

It Decides My Fate

I have spent 25 years in winning my place as a designer of automobiles. I have designed 24 models, and built tens of thousands of cars.

It has been a long, hard road. And I, like other men, take pride in what I have accomplished.

Reo the Fifth marks the climax. I have spent 18 months to make this car the cap-sheaf of my career.

All I have gained in a lifetime of effort is at stake on this car's performance. And

for this season, at least, I have complete charge of the making.

So you may be sure that Reo the Fifth won't be skimmed to meet a price.

Price Not Fixed

The last car I designed—a car smaller than this—sold for \$1,250. And that was considered a marvelous value.

The cost of materials has fallen since then. New machinery has cut our factory cost.

We figure this new car will double our output—and it will. We also save a great deal now by building only one chassis in this enormous plant.

By thus paring our costs, then our profits, we got the price down to \$1,055. And we take pride in this amazing price as evidence of our efficiency.

But this price is based on ideal conditions, and on cost for materials the lowest we have had in years.

So this price is not fixed. Any added cost must be added to it. Our contracts with dealers all provide for advance.

We announce this to avoid future misunderstanding.

Our Model Factory

We have built up here what men regard as a model automobile plant. Engineers from everywhere come here to inspect it.

The labor-saving machinery is largely of our invention. It was built in our shops.

It gives us utter exactness. It makes like parts interchangeable. And it has cut labor cost to the minimum.

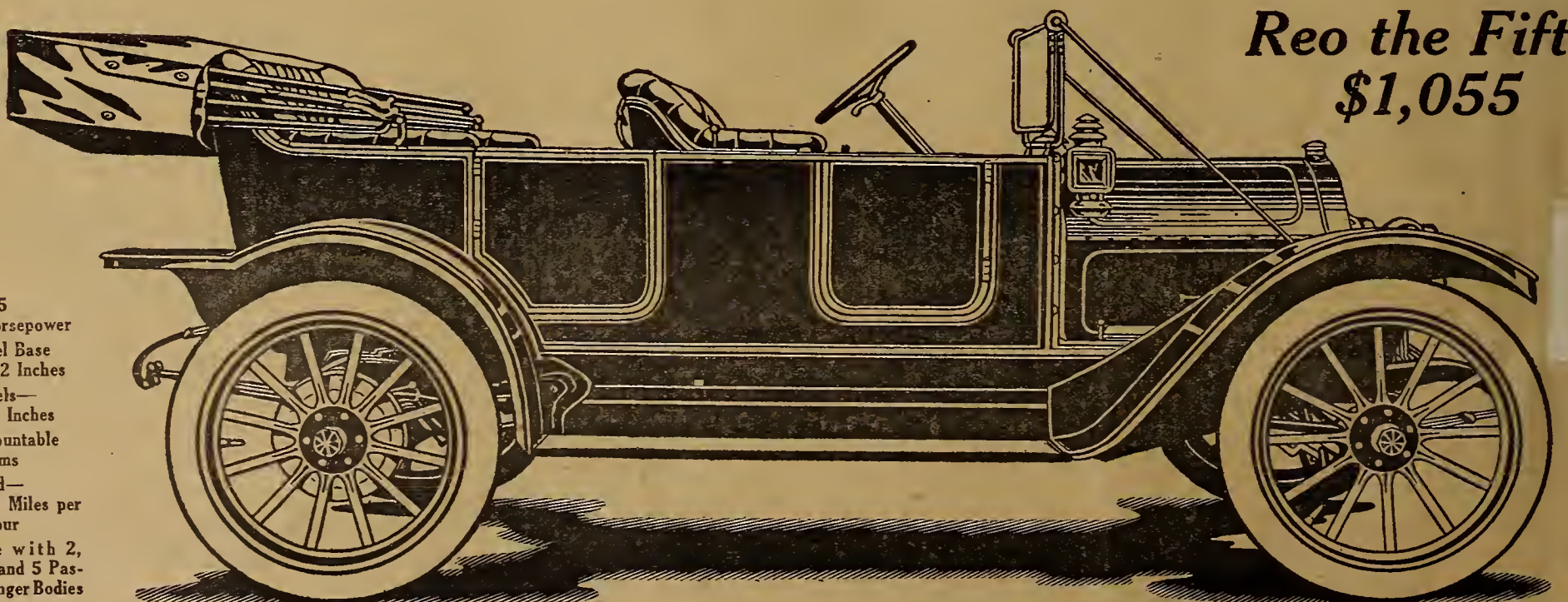
In this model factory we build the whole car, so no profits go to parts makers.

Our output is enormous, which means small overhead expense. Our system is perfect. Efficiency here has been worked out to the finish.

Then we are not overcapitalized—have no bonded debt. So that factor in cost is eliminated.

We ought to give more than others give for the money. We expect to, and will. But this initial price, in my estimation, is too low to last.

Reo the Fifth
\$1,055



30-35
Horsepower
Wheel Base
112 Inches
Wheels—
34 Inches
Demountable
Rims
Speed—
45 Miles per
Hour
Made with 2,
4 and 5 Pas-
senger Bodies

Top and windshield not included in price. We equip this car with mohair top, side curtains and slip cover, windshield, gas tank and speedometer—all for \$100 extra. Self-starter, if wanted, \$20 extra.

Judge for Yourself

If a Car Can Be Built Any Better

The Standard Car

There are cars larger and smaller than Reo the Fifth. I have built all types myself, up to six-cylinder sixties.

But Reo the Fifth, in my estimation, typifies the car of the future. More and more, experienced motorists are coming to this standard type.

It is not too large or too small, too light or too heavy. It has ample power for any requirement. It is large enough to be a roomy car for five.

Cars over-powered and over-sized cost too much for upkeep. Undersized cars grow to seem insufficient.

The popular type is the 30 to 35 horsepower, four-cylinder car. Cars of this type are sold all the way up to \$2,500. So I adopted this type for My Farewell Car. And this factory now turns out no other model.

I don't claim, of course, that oversize cars need not be more costly. But I know of no way, in a car of this type, to add one iota of value.

Margins of Safety

The best I have learned in 25 years is the need for big margins of safety.

I have learned this by watching tens of thousands of cars, with all sorts of drivers, under all road conditions.

It is not sufficient to have parts strong enough. They must have several times the needed strength.

So my axles and driving shaft, wheels and springs are all much larger than necessary. So is every part where weakness ever develops.

I use Nickel Steel for axles and driving shaft—Vanadium Steel for connections. My differential was designed for a 45-horsepower car.

I use roller bearings—Timken and Hyatt—instead of the usual ball bearings. There are only three ball bearings in this whole car, and two are in the fan.

Unusual Tests

To make utterly certain that parts are right I use very unusual tests.

Each lot of steel is analyzed to make sure it accords with my formulas. The slightest variation causes me to discard it.

It is usual to test gears with a hammer. I have built a crushing machine of 50 tons' capacity, to prove to exactness what each gear will stand.

I put magnetos to a radical test which only two makes tested here will stand.

Inspection here is carried to extremes. Engines are tested again and again against unusual loads.

We use the same clutch as \$5,000 cars—the same grade of springs—the same efficient type of brakes.

I ran one of these cars for ten thousand miles—night and day, at top speed, on rough roads. I did this to learn if any part of the car would fail to meet any requirement.

Then we took the car to pieces and examined every part. We could hardly discover in any important part the slightest evidence of wear.

All this is done to make sure of perfection in this, My Farewell Car.

Outer Attractions

Another thing I have learned is that men—and women—want a classy and beautiful car.

So the design of this car shows the last

touch of up-to-dateness. The body finish consists of 17 coats. The upholstery is deep. It is filled with hair. The covering is genuine leather.

The lamps are enameled, as per the latest vogue. Even the engine is nickel trimmed.

The wheel base is long, the tonneau is roomy, the wheels are large, the car is over-tired. There are ventilators in front which open and close. There are demountable rims.

You will find no shortcomings when the car is compared with the costliest cars on the market.

Close to Finality

I regard Reo the Fifth as pretty close to finality. In every detail it marks the best I know. And I do not believe that this plant or others will ever build a much better car.

Better materials are certainly impossible. Tests and inspections cannot be carried further. The features and devices are the best yet discovered, and there appears little chance for improvement.

Fashions may change in some minor details, but no designer, in my estimation, will ever get more of real worth in a car.

Ask for Our Book

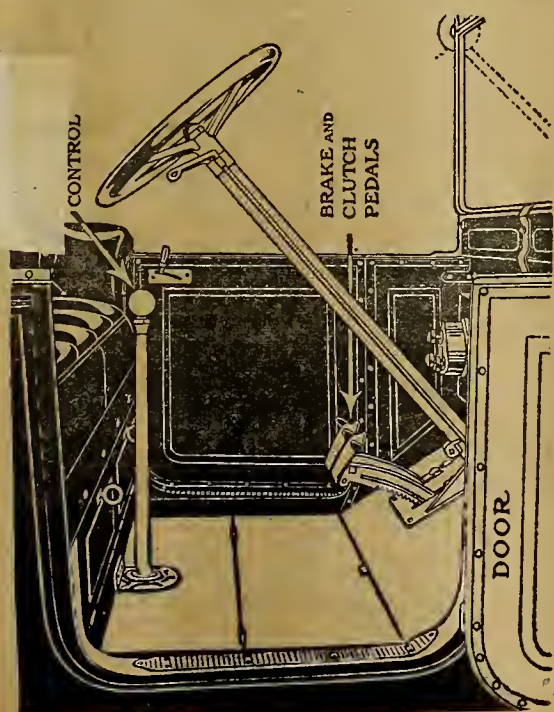
Our Book shows the three styles of body—touring car, demi-tonneau and roadster. The roadster sells for \$1,000.

It pictures all of the details, so you may compare them with higher-priced cars.

You should know these facts, for Reo the Fifth is the most interesting car of the season.

Write today for the book, and we will tell you where to see the car. Address

R. M. Owen & Co. General Sales Agents for **Reo Motor Car Co., Lansing, Mich.**
Canadian Factory, St. Catharines, Ontario



New Center Control—Exclusive Feature No Side Levers—No Reaching

Reo the Fifth brings out, for the first time, our new center, cane-handle control.

All the gear shifting is done by this convenient lever between the two front seats. It is done by moving this lever less than three inches in each of four directions.

No noise, no grinding, no reaching. Just a slight, easy motion.

Both brakes are operated by foot pedals, and one of the pedals also operates the clutch.

So there are no side levers to get in the way. The entrance in front, through either door, is as clear as the tonneau entrance.

This arrangement permits of the left side

drive, heretofore possible in electric cars only. The driver sits as he should sit, close to the cars which he passes and on the up side of the road. He sits where he can look back in making a turn.

The operation of this car is simplicity itself—as simple as an electric. Your wives and daughters can drive it. This center control is the best new feature brought out in any car this year.

Yet this is but one of the details which reveal this car's up-to-dateness. When you see them all you will say with me that Reo the Fifth comes pretty close to finality.

Sharp, Perfectly Conditioned Tools for Shop and Farm

Here is a little grinder that is different. It is better made—more handsomely finished—more efficient in its work than any other hand or foot power grinder ever produced. The

CARBORUNDUM NIAGARA GRINDER



is substantially and accurately made. Every part of the work is done in the Carborundum shops and under expert supervision. It is handsomely enameled and nickel trimmed.

The Carborundum wheel that does the grinding is just the right grit and grade for efficient work. It has an exceptionally wide grinding surface, and being made of Carborundum is the fastest cutting, most perfect grinding wheel in the world.

The Carborundum Niagara Grinder is made in 15 styles, hand and foot power—or with attachment for gas engine or other power.

Special styles for grinding sickle knives and other similar implements.

Niagara Grinders—Nos. 1 to 4

Ideal little machines for shop, home or farm. Powerful, compact, noiseless, dirt-proof. Adjustable tool grinding guide makes possible a wide range of work. Medium grit Carborundum wheel.

No. 1—	Wheel 4 in. in diameter	1 in. thick	—\$3
No. 2—	5 in. " "	1 in. " "	—\$4
No. 3—	6 in. " "	1 in. " "	—\$5.50
No. 4—	7 1/2 in. " "	1 in. " "	—\$8

Write today for Grinder Book

Ask also about the wonderful Carborundum Sharp-ening Stones.

THE CARBORUNDUM COMPANY
Niagara Falls, N. Y.

Farm Notes

Maple-Sugar Making

PRICES for maple sugar of good quality are constantly tending upward. Even the mixers are calling for a good grade of sugar, as only by using the best can they obtain the best maple flavor. Although the quality of maple sugar is improving year by year, there is still a large amount of poor stuff made.

There is nothing gained by using a poor outfit. The increased price obtained for a good quality would soon pay for up-to-date equipment.

All sugar-producing States might also greatly increase their output by carefully preserving and cultivating their sugar-maples. Vermont is awakening by degrees to the importance of not only preserving the trees already grown, but to the necessity of setting new orchards. Young trees from five to ten feet high can be found along roadsides and in the edges of an old sugar-bush. These can be transplanted to the place where they are expected to grow, and in twenty-five years will begin to yield sap for the planter.

That the quality of the sugar does not depend so much upon the outfit as upon the

Farm and Fireside, March 16, 1912

India; the Muscovoc, Russia; Poland like-wise; the Leghorn and Ancona suggest the countries in which these towns are situated. Turkey is American and not eastern, so titles are not always reliable. So with the word Indian Runner. The ducks we are discussing would no doubt be in that country centuries ago and the common name would be Runners, because they can run and are so active. Granting this was the original title, when would Indian be prefixed? The Runner does not sit, but drops her eggs almost anywhere, so wherever she came from in the first place it was a tropical country where the eggs would be hatched by the sun, otherwise the breed in its natural state would have died out. So, like the ostrich, the birds relied on the sun to do the hatching. Thus they came from a tropical country. Roughly speaking, about the year 1700, when our sailors were getting more in touch with the Far East and we in England were beginning to hear more of India and its great heat, and so on, the fanciers would hear of the sun hatching eggs and would at once think these Runner ducks came from a place like this, and so they would be called Indian Runners.

Certain it is that Indian Runners have been so called for longer time than any living person; they are an old established breed and breed true to type and don't "throw back" or breed back as a made-up breed would do. I have studied this breed for a long while and believe I can speak truthfully about it.

JOHN WILSON.



Making maple sugar in the hills of Vermont

The Buzz-Saw

ON MANY farms there are old fence-rails, boards and quite a lot of undesirable small trees. A great many farms to-day have the gasoline-engine, which, of course, is the most reliable power for the buzz-saw. We quite often cut as much as six cords of wood in half a day, using a three-horse engine and a twenty-four-inch saw. While this is not a large cutting, it is ahead of the old way of cutting by hand. Coal may be cheaper to burn, but it is very dirty to use.

OMER R. ABRAHAM.

Have the pastures divided, so the stock can be turned on one part while the other part is growing.

The Agricultural Rural School

HAVE you read Judson C. Welliver's article "An Investment in Schools" in the January 20th issue of FARM AND FIRESIDE? If you have not and have a boy or a girl to educate, you want to read it. Then use all your influence toward getting that bill passed both in the House and in the Senate.

What Mr. Welliver says in regard to "the agricultural colleges floating sky high" is true. I know, for some twenty years ago I fully made up my mind to have an agricultural-college education, and five years later I made my application for entrance to one of the best agricultural colleges of the Middle West. You all know what was thought of book farming then. If you don't, let me give you an incident that occurred during my sophomore year in college. I was one of six boys chosen to represent the Y. M. C. A. of the college at Lake Geneva, Wisconsin. There were some 500 boys in the delegation, representing a great many colleges and universities of the Middle West. Upon arriving at the camp-grounds, each delegate was given a card with a series of questions on it to be answered. One question was, "What do you expect to make your life work?"

About the fourth day of the convention these cards had all been tabulated, and the results were read in the auditorium in the presence of 500 or more young men. I remember that the number who expected to be lawyers was the largest, about 175 or 180 of them; then came the various kinds of engineers, about 150 of them; the doctors, about 90; then the ministers, 50 or 60; then the missionaries, about 8 or 10, and finally down to 1, a breeder of pure-bred live stock. What a laugh and titter went around the hall! There was a hayseed in their midst! And yet there were, I

man behind the outfit is proved by the fact that there were persons back in the days of the caldron kettle and log fire who made as white a sugar as can be made to-day with any up-to-date outfit.

The dark color and rank flavor once deemed characteristic of maple sugar are all added to it after the sap leaves the tree. The maple-tree itself has nothing to do with it. Therefore, the quicker the sap can be turned into the finished product, the less chance there is for it to acquire any foreign taste and color. The old-time sugar-maker seldom made a white delicate-flavored article. To-day, with a good rig, there is really little excuse for making black ill-flavored sugar.

The sugar seasons have changed in the last decade and are often very erratic. One should be in readiness to begin at short notice, as oftentimes a good run can be obtained if one is not long getting ready. Many thousands of pounds of sugar are lost annually through failure to be on time.

To make sugar white, one must boil it briskly. A quick, brisk fire will make much better sugar than a slow, heavy fire. The sap should be shallow in the pan and should boil smartly, throwing the air-bubbles thickly to the surface, there to break and carry off moisture. To do this, one should have dry wood split fine enough to admit of brisk burning.

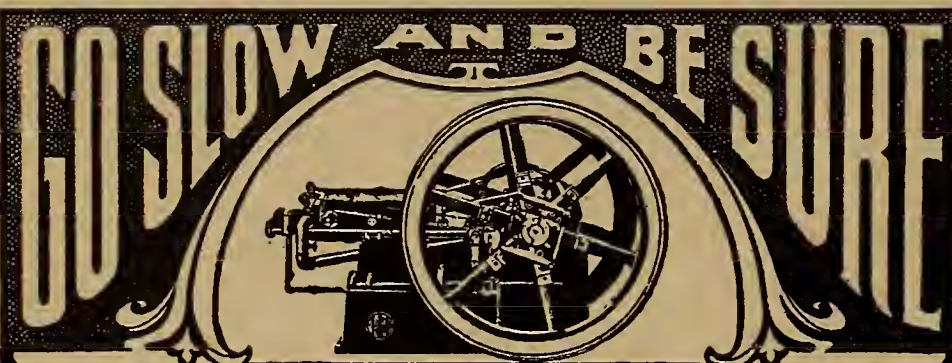
The tendency of the day is for the small package and a large amount of syrup. The quart and two-quart can, tastefully labeled, sell much better than the gallon can. The small fancy cakes and boxes are popular at retailers' stores. Vermont has a Maple-Sugar Makers' Association, and a sugar-market. Many firms prefer to buy in small quantities, and this they can do at the market. The ideal way to market maple sugar is direct to the consumer.

The great demand and high price of hardwood lumber is working much injury to the maple-sugar business, tempting many to sell their maple-trees for lumber. The supply of good maple products does not equal the demand, therefore the price is very likely to go higher. A great income may be obtained from sugar. It seems a pity to see the maples laid low.

HELEN MATHIE.

Name of Indian Runners

WITH all due respect to Mr. C. Pickering, for he is a Westmorland man and a very worthy fellow, I should say the Indian Runner was so named long before Mr. Pickering saw one. The names of breeds are for the most part correct, but not always so. The Brahma suggests India; the Indian game,



It's wise to decide that you need an engine. But don't spoil your good intentions by buying a cheap one. Don't be blinded by a low price or by wild claims. Go slow and be sure. Buy an engine that has proved its worth, from a concern that has proved its integrity. You can't afford to make a mistake—it's much costlier than the price of an engine.

I H C Gasoline Engines

are in use on thousands of farms throughout the country, running the many farm machines, such as the cream separator, churn, feed grinder, pump, fanning mill, thresher, washing machine, electric light plant, etc. They guarantee you reliable power for every requirement at a surprisingly small cost.

I H C gasoline engines are marvels of simplicity, strength, economy, reliability, and durability. They run steadily and smoothly, year in and year out. They make and save money every time they are used, and if, by accident, you should need repairs, you can get them promptly with little trouble or delay from the I H C dealer in your locality.

Don't you think it would pay you to investigate an I H C engine before you buy any? They are made in so many sizes and styles that you can select just the right size and style for your work: Vertical type—2, 3, 25, and 35-H. P.; horizontal—1 to 50-H. P.; semi-portable—1 to 8-H. P.; portable—1 to 25-H. P.; traction—12 to 45-H. P.; sawing, pumping, spraying, grinding outfits, etc. Built to operate on gas, gasoline, kerosene, distillate, or alcohol—air-cooled or water-cooled. Ask the I H C local dealer for catalogue and all information, or, if you prefer, write direct.

**INTERNATIONAL HARVESTER COMPANY
OF AMERICA**
CHICAGO (Incorporated) U.S.A.

I H C Service Bureau

The purpose of this Bureau is to furnish farmers with information on better farming. If you have any worthy question concerning soils, crops, pests, fertilizers, etc., write to the I H C Service Bureau and learn what our experts and others have found out concerning these subjects.



think, four different State agricultural colleges represented in that student gathering and only one of the 500 delegates even thought of returning to the farm, and he was openly the laughing-stock of the rest. Is it any wonder that Mr. Welliver is just a little afraid his boy may be educated away from the farm, if the boy himself is not fully determined to return? My mind was made up, and at the end of my four-year college course I was the only boy in my class to go directly on the farm and stay there. I stayed, and I am there yet. There is not the derision now of the agricultural education that there was ten or twelve years back, but it is still present to some extent, and if you want your boy on the farm, you must not overlook this very important fact and forewarn him.

The one great step forward toward putting this false idea down in regard to the place agricultural students are taking and will take in the future will be the establishing of these agricultural schools throughout the rural districts.

At the time I entered the agricultural college, a high-school education was not a necessary preliminary, and when I finished the eighth grade, I was able, by spending one term in a preparatory school, to enter the freshman class. Now it takes a high-school graduate to qualify as a freshman in the same agricultural college. How many of the boys and girls, after spending four years in the high school and then four years more in college, are going to go back to the farm? Only those starting with a strong determination to do so will get back. They will be well equipped for their work, and there will be only too few of them.

What we need is an agricultural school system which will be within the reach of a far greater number than the present State agricultural college.

This "vocational educational bill" which is before Congress now is the beginning of the provision for these lesser agricultural institutions, and the more you help to get it through, and other bills which will come up in the future years, the sooner you will raise the standing of the agriculturally inclined boys and girls to the place where they belong.

Who are the real aristocrats in England? They are not the tradespeople and merchants; nor the engineers and mechanics. Neither are the lawyers and doctors on the top rung, but it is the men who own the land who are the real aristocrats. If it is so in England, why is it not so here? Well, it is going to be sooner or later, and you might as well fall in line as to fall behind. Now sit down, and write the best letters you can to your senators and representatives, and help this bill through. PAUL H. BROWN.

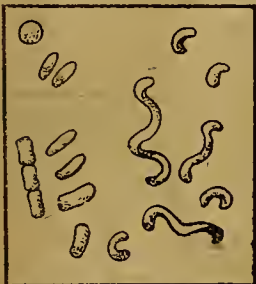
Nature pays the man who feeds her old fields.

Useful and Harmful Bacteria

THERE is an idea prevalent that bacteria are all harmful, that all microbes exist to produce disease. Nothing could be farther from the truth. Of the thousand or more kinds of bacteria that have been described, probably not more than fifty have been found to be harmful to man or animals. This does not mean, of course, that all the remaining forms are useful. It is with bacteria as it is with other plants. There are some that are always injurious, they are the poison-ivies and cockleburbs of the world of microbes. The harm done may be disease production in man or in animals, or it may be a rotting or decay of some food material as silage, or the canned corn or peas of the housewife, or possibly the production of an



Bacteria, as we imagine them



Real bacteria, magnified

offensive odor from a pile of manure or from the privy vault. Bacteria that are harmful under one condition may be useful under another. The forms that cause the decay of canned food in the home may be most useful in changing the manure hauled to the stubble-field so that it can be used by the corn crop of the next year. The bacteria that sours the milk are the same that ripen the cream for churning.

The great majority of bacteria can neither be said to be useful nor harmful. Probably they all have a part to play in nature, but in many cases we do not know just what they do. As we study them, more and more are found to fulfill some useful purpose.

Most important of all bacteria are the useful forms. Later we shall consider some of these, but it may be emphasized here that they are absolutely essential in nature. If all the bacteria should suddenly vanish from the earth, all animals and plants would also quickly die. R. E. BUCHANAN.

What?

By Berton Braley

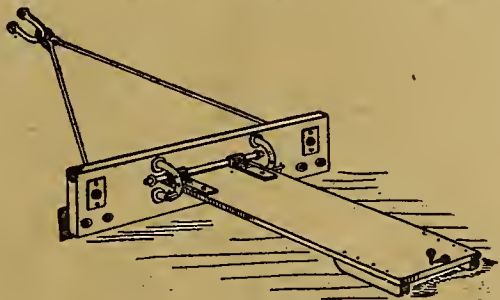
WHAT are you going to do this year? Run your farm as it should be run, Or blindly stay in the same old way, And do the thing as it has been done? Will you fallow that field that needs a rest, And sow that clover that's needed here? Or will you spoil the life of the soil— What are you going to do this year?

What are you going to do this year— Use your head or your hands alone? Fix your fences and use your senses, Or talk hard luck in an injured tone? Will you do your work on a well-thought plan, With a brain that's working, an eye that's clear, Or stay like a mutt in the same old rut— What are you going to do this year?

What are you going to do this year— Lighten the work of your weary wife, Or keep her bound to the same old round, With few of the better things of life? What is the motto—growth or loss? The old-time grouch or the new-time cheer? Are you going ahead or back, instead? What are you going to do this year?

An Adjustable Scraper

USE two two-by-twelves, each five feet long. A four-inch-wide strip of steel is bolted to the lower part of the face. The operator stands on the tail-board to regulate



the cut. The tool dumps itself when the operator steps off. He holds the tail-board by a rope fastened at the end of it.

The tool will cut and carry soil, push or level, according to where the bolt is thrust through the holes in the iron arcs. The irrigator finds many uses for this tool.

R. LOWDERMILK.

A Profitable Business

IN a little Vermont town, lying about six miles out from the beautiful city of Burlington, on Lake Champlain, is an orchard that is making its owner both fame and fortune. This orchard was set out nearly a half-century ago by the present owner's father, and, although the trees grew to large size, the orchard was not considered a very paying investment. A few years ago the present owner came to believe that there was money in the old orchard, and that, in order to get it out, the trees must be cultivated and fed like any other crop. There were more than 3,000 trees, mostly Greenings, with some Baldwins and Northern Spies. The trees were too thick for the sunlight to penetrate them. So the owner went among them and cut out the poorest. The trees were pruned, and the orchard plowed and fertilized. For fertilizer, after some experimenting and study, he used manure from the stock-yards, and this he had shipped him in car-load lots from the yards at Montreal. Some lime was also used. Buckwheat was sown between the rows and was left on the ground to form a mulch.

The orchard covers one hundred acres and something like twenty acres is now set to young trees. As fast as one of the old trees becomes unprofitable, it is blasted out and a new one set in its place. Spraying is done with a power sprayer run by a gasoline-engine. So thoroughly is this work done that out of yield of close to 10,000 barrels not more than 300 or 400 barrels are anything but firsts. This past year the yield was about 9,000 barrels and a good price was received for all of them. During the picking about 70 pickers were employed. The daily picking was from 300 to 400 barrels. A special building has been built to house the pickers during the harvest. Before this year's harvest-time there will be a shop for the building of apple-barrels. Although Vermont is attaining considerable fame as an apple State, there is no manufactory for apple-barrels in the State. At one time last fall, there were 20 car-loads of barrels on the siding for the use of this one orchard. These apples are usually shipped to New York and placed in cold storage, there to be sold as demand requires. HELEN MATHIE.

The Size of a Seed-Potato

[CONTINUED FROM PAGE 5]

In 1911 there was a distinct loss in using the large quantity of seed per acre. One reason of this loss was the high value of potatoes at planting-time. The experiment was more extensive than indicated here. It was found that even medium-sized tubers were not a paying proposition in 1911. The best results were secured from the small

tubers. The small tubers used for seed in 1911 were really marketable, as they weighed one and one-half ounces for each piece of seed.

While the varying climate conditions do not allow us to definitely limit the size of seed-tubers, yet under ordinary conditions it is safe to use a generous amount of seed. The general use of small seed-tubers should be condemned, only exceptional conditions justifying the practice. The amount of seed used per acre depends in considerable measure upon the price of potatoes at planting-time. If potatoes are cheap, then a large amount of seed should be used.

In our experiments potatoes were planted at the rate of 6,220 hills per acre, which is considerably thinner planting than is practiced in most potato districts. This thin planting is justified with us on account of the limited amount of rain.

Reliability

When you buy a registered cow, you know the pedigree means quality—the animal is thoroughbred.

In buying implements, tools or household goods that are trade-marked, there is the same assurance of value. "Scrub stock" animals cannot be registered.

It's the manufacturer proud of his goods who puts his name or trade-mark on them. And if they are so marked, he guarantees you satisfaction.

Such goods are generally advertised. When making your purchases, consult the advertising columns of FARM AND FIRESIDE. They contain announcements of reliable concerns only.

Menz "Ease"

YOUR FEET WILL BE COMFORTABLE in a pair of Menz "Ease". You'll also find after several months' every-day service, that a better shoe can't be put together. And if you have the same experience as thousands of men who have worn them the past 12 years, they'll save you money on your every-day shoe bills. Look for name on yellow label.

Send for Catalog No. 20

Describes the Menz "Ease" from 6 to 18 inch heights; also the "American Boy"—an honest shoe made especially for the red-blooded, outdoor boy.



Find the name Menz "Ease" on sole and yellow label, and you will know that the upper leather is Menz "Ease" Special Elk. The only upper leather we have used for 12 years. Best leather tanned for every-day service. Tough as raw-hide, soft as a glove and will always retain its original softness if properly cared for.

ASK FOR CATALOG No. 20 We ought to have a dealer near you. If we have, will refer you to him. If not, we can introduce the shoe direct to you from the factory, regular retail prices, delivery prepaid.

Menzies Shoe Co., Makers, Detroit, Mich.

AGENTS

MAKE \$30 PER WEEK

SEE THAT SHUTTLE

This Awl sews a lock stitch like a machine. Just the thing for Repairing Shoes, Harness, Buggy Tops, etc. Sews up Grain Bags, Tents, Awnings and Wire Cuts on Horses and Cattle.

Makes a neat, durable repair and quickly, too. Has a diamond point grooved needle, a hollow handle, plated metal parts, a shuttle, and a bobbin holding 24 yds. of best waxed linen thread. No extra tools needed. Can be carried in the pocket. Special discounts to agents. S. Perrine says "Sold 9 on way home with sample." W. Spenser writes "Sold 11 first 4 hours." Reg. price \$1.00. Complete sample with 1 large, 1 small, 1 curved needle, a shuttle, and a bobbin of thread sent postpaid for 60c., 2 for \$1.00. Get one, keep it a month or so, mend all your Harness, etc., and then if you are not satisfied return the Awl and we will refund your money. Send quick for sample and instructions. ANCHOR MFG. CO. Dept. 1030 DAYTON, O.

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Any creameryman or experienced dairyman will tell you that a good cream separator will give you a great deal more and a great deal better butter than you can make with any gravity settings system, and equally, of course, more and better cream, if you are selling cream.



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You cannot make the excuse that you can't afford to buy a De Laval, because it will not only save its cost over any gravity setting in six months and any other separator in a year but is sold either for cash or on such liberal terms that it will actually pay for itself.

A little investigation will prove to you that the truth of the matter is that you really can't afford to make cream or butter without the use of a DE LAVAL cream separator.

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Live Stock and Dairy

The Well-Fed Cow



ONE thing is certain in the care of the dairy cow: If the cow-stable is so "snug" and warm that dampness collects on the windows, we may be sure the stable is too warm and snug for the health of the cows. Remove a sash, and cover the opening with muslin. The cows need comfort, but they need plenty of fresh air. The cow's good health is one of the dairy assets.

There is much virtue in plenty of clean straw for bedding. We pile it well up to the mangers, and the cows eat considerable of it, not because they are hungry, for we feed fully, but because they want it. It probably occupies only about as important a place in the ration as do many of the popular breakfast-foods in men's dietetics.

The cow, however, generally knows, and if she wants to eat clean, bright straw, we let her have it; but we use the straw not so much for her to eat as to lie on, to make her comfortable and keep her clean. Then we use it as an absorbent to save all the manure which belongs to the land.

We stable pretty closely during winter. The cows have good ventilation, clean, comfortable quarters, all the varied feeds they will eat and water always before them. They are made our guests and we find them very grateful.

When the sun shines and the wind does not blow and the ground is not too soft, they are turned out into the pasture where they seem to enjoy re-visiting the scenes they luxuriated in last summer, when the grass was green and abundant, when the leaves on the trees made fine shade for ruminating rests.

Then when it is winter outside, the stable is cheerful within and the cows dream and doze and chew and have a very peaceful outlook on life.

On such days they enjoy the brush and card, always in the hands of a careful man who knows the thickness of the skin of each cow.

We like to make a fuss over the cows, for it pays dividends in both cash and satisfaction.

If the cow is to be fed right, she must be fed as an individual. The amount of her feed should be relative to her production,

condition and digestion, the true balancing of her ration. She should have a variety always, as stimulating to consumption and assimilation. She should always have enough, no more—the feeder must observe this.

She should have her love of system and regularity encouraged and ministered unto.

We try as far as possible to have our dairy-feeds home grown, using to their limit of possible profit corn-silage, and hays of clover, alfalfa, cow-peas and soy-beans. We use much corn, for we grow it abundantly and profitably. We buy commercial feeds to fill in and round out. In them we know we are buying the fertility of other men's farms and adding it to the fertility of our own. Our cows pay for this bought feed and we recover in the manure probably three fourths of the original fertilizing value of that feed. Hence, we regard the well-fed cow as the forerunner of the well-fed, productive farm.

W. F. McSPARRAN.

Profits from Dairying

ONE of the premier Holstein herds of America, which is noted for the quality and production records of its stock, whose milk is sold to a local cheese-factory, is maintained during the winter season on a mixture of equal parts of bran, oatmeal and corn-and-cob meal, which is fed according to the standard rule of one pound of grain per day for every pound of butter-fat which the animal yields in a week. Timothy and clover hay and corn-silage, which is fed throughout the year, furnish the coarser portion of this dietary. When any individual in this herd is trying for a production record, she is accorded a more varied diet; other nutrients, such as barley-meal, corn-meal, oil-meal and Ajax flakes, being fed in addition to the grains previously mentioned. Of course, during the summer and fall these animals all have access to excellent pasturage.

Another Illinois farmer recently realized a net profit of \$1,980 in one year from his dairy herd of 59 animals. His gross return totaled \$6,840, but \$400 of this went to pay for the rent of eighty acres which he needed, as his own farm only comprised 130 acres; \$1,800 went to pay for the services of hired help, while the rest of the expenses comprised feed-bills, taxes, depreciation, interest on the investment, and so on. This man fed his herd according to individual capacity and production on a ration of equal parts of crushed corn, brewer's grains and wheat-bran, which was supplemented by the use of shredded corn-fodder, silage (as much as each cow would clean up with a relish), and alfalfa and clover hay. During the twelve months his herd averaged 7,600 pounds of milk per animal, or a gross yield of 448,400 pounds.

GEORGE H. DACY.

Colts Will Not Eat Hay

I AM asked by a Virginia reader what to do with several two-year-old colts which refuse to eat hay.

In some of the Southern States, corn-leaves, stripped from the stalk and nicely cured, are fed to colts and horses, and there is no better forage in the world. It is equal, if not superior, to the best hay, and if colts eat it, they do not need hay. But forage of some sort they must have, and plenty of it, too. Grain will not take the place of forage. If they have been eating hay and now refuse it, the hay is either poor or their mouths are sore.

DAVID BUFFUM.

The cattle miss the sunlight that the cobwebs shut out of the barn.

Rations for Dairy Herds

AMONG the scientifically balanced rations for dairy cattle which have met with much favor is one which is composed of thirty pounds of wheat-bran, thirty pounds of Ajax flakes, fifteen pounds of corn-meal, fifteen pounds of ground oats and ten pounds of oil-meal per hundred pounds of the mixture, which should be fed in conjunction with corn-silage and alfalfa or clover hay. A second efficient combination is made up of thirty pounds of wheat-bran, forty pounds of corn-meal and thirty pounds of Ajax flakes mixed in one-hundred-pound lots, to be supplemented by the same roughage as was mentioned before. Another good mixture consists of thirty pounds of wheat-bran, thirty pounds of ground oats, twenty pounds of corn-meal and twenty pounds of Ajax flakes, while a final proportion of two-fifths wheat-bran, two-fifths Ajax flakes and one-fifth cotton-seed meal has met with much success, where alfalfa or clover hay and corn-silage are used with it.

As a general rule, it pays the farmer to grind all the grain which he feeds, on account of the greater efficiency which he realizes from concentrates fed in this fine condition. Prof. G. C. Humphrey of the Wisconsin Agricultural College tells of some balanced rations which he devised for a certain community, in which the cows averaged about 1,000 pounds in weight and produced an average of one pound of butter-fat per day per animal. These dairy herds prospered on their new feeding mixtures. The roughage on the majority of these coun-

try places included timothy-hay, mixed hay, clover-hay and corn-silage, while the only grains available were corn, oats, bran and oil-meal. At the existent prices these concentrates cost \$22 per ton for corn-meal, \$30 for ground oats, \$25 for wheat-bran, \$40 for oil-meal, \$20 for timothy-hay, \$19 for mixed hay, \$18 for clover-hay and \$3 for corn-silage. With these nutrients to build from, Professor Humphrey ultimately worked out the following combinations, which under the circumstances are about as near perfection as it was possible to arrange them. Even under these conditions the amount of feed necessary to produce one pound of butter-fat on the average cost more than could be realized from the sale of the resultant fat. For example, it required twenty pounds of timothy-hay, two pounds of corn-meal, two pounds of bran, two pounds of ground oats and two pounds of oil-meal to produce one pound of butter-fat, and whereas the cost of the feed was 31.7 cents, the resultant fat was only worth 26 cents. In fact, of the four mixtures which were compounded only one could be profitably fed, it costing 21.4 cents to produce a pound of butter-fat with this ration of thirty pounds of silage, eight pounds of clover-hay, two pounds of corn-meal, two pounds of bran, two pounds of ground oats and one pound of oil-meal.

There can be no doubt but that oftentimes the careless farmer feeds his herd at a loss, just because he does not investigate the cost of the ration and the relation which it bears to the income resulting from the sale of the milk. Where hay is as high-priced as in the instance of the rations discussed above, the feeder can profitably substitute silage to a large extent for the grasses. In addition, as a general proposition, alfalfa can usually be substituted for clover-hay and oil-meal at an increased value as a nutrient and at a decreased cost.

GEORGE H. DACY.

A Good Word for Pigs

IN MY experience I have found it to be better not to breed a sow in winter until late, so that the pigs will be farrowed about the opening of spring. Then with proper feeding one can gain sixty days on the pigs farrowed in midwinter. I feed the sow lightly on corn and wheat-middlings, just enough to keep her strong and healthy until the arrival of the pigs. I continue the same



Wrong



Right

feed and increase slightly until she has each day three feeds such as she cares to clean up. I let the increase in feed be largely the middlings. I mix them with water until a very thin slop is made. I soak a little corn until soft for the little ones, after they begin to eat, and find this very beneficial. In the meantime, I feed liberally of the middlings and there will be no check to growth. In my experience there is no other feed so good for pigs or so near the same as their mother's milk. Do not-keep hogs in too close buildings; they require ventilation. Almost any kind of house that is dry will do; give plenty of straw for bedding, but change it every ten days. If possible, have something green for them. They will eat almost any growth, but never let them have access to matured grass. A. E. VANDERVORT.

Discouraging the Kickers

WHAT to do with the nervous horse, that is the problem brought up by the letter of a Michigan young woman. Her own favorite driving-horse shies often and kicks on the road whenever touched with the whip, as if he resented it.

A horse that has not been used through the winter may, of course, "act up" in these and other ways, when first driven in the spring, without being really vicious. It is perhaps wiser to drive such an animal double a few times before hitching up single.

As a general principle, horses standing idle should be given very little grain, and when they begin to be used, the quantity should not be increased at once—wait until their "wire edge" has been taken off a little and they will become steady. Adapt the grain always to what the horse is doing. If on light or very intermittent work, feed

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Furthermore, we will positively ship you the **Economy Chief Cream Separator** on sixty days' trial. Give it a good hard test on your farm for sixty days before you decide to keep it. Then if you don't think it the **BEST EVER**, simply send it back to us and it won't cost you a cent.

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West Chester, Pa.



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little grain. If the horse shies at autos, give him less oats and more work.

The general treatment of shying, when the trick has become a real vice, has been covered fully in FARM AND FIRESIDE, May 25, 1910.

When a horse, as described by our correspondent, shows resentment when touched by the whip, a course of treatment to overcome the habit is in order. A well-broken horse should, of course, submit willingly to being urged by the whip, though it should always be used with judgment. The "controller," which has been fully described in previous issues of FARM AND FIRESIDE, is well adapted to the cure of this fault, in cases where the animal first kicks and then attempts to run away.

If the animal simply shows a disposition to kick when touched with the whip, the following device will, beyond all question, effect a cure (its description has been published before in FARM AND FIRESIDE):

Have a short strap with a ring sewed strongly into each end, just long enough to go over the top of the head-stall so the rings will hang just over the rosettes. Tie this firmly on. Have an extra bit (a straight one of ordinary size) in the horse's mouth. Have an iron ring tied firmly to the back-strap of the harness just where the strap that supports the breeching crosses it. Have a long cord about the size of a man's little finger.

Tie one end of this cord to your off shaft just back of the cross-bar; pass it under the cross-bar, up through the iron ring, forward through the off terret, up through the off ring over the rosette, down through off ring of extra bit, over the horse's nose and through near ring of extra bit, up through near ring over rosette, back through near terret, back through ring and tie to shaft on near side, exactly as you did on off side. With this rigging you must use no check-rein, but tie the cord just tight enough to act as a check-rein, and keep the horse's head at the proper elevation. Tie a string to top of bridle, bringing it straight down between the horse's eyes and tie to the cord where it passes over the nose, to keep it from slipping off. Be sure that everything is strong and secure and well adjusted.

Now touch the horse with the whip. The moment he tries to kick, he reproves himself very sharply, and after a few attempts he will give it up. Use this rigging till he has entirely gotten over the habit, and then substitute a check-rein formed on the same principle.

Sometimes horses with open bridles kick when touched with the whip, because they can see the whip. They give the habit up at once when blinders are used. An open bridle, on a horse that does well with it, is a nice thing, and I often use one, but the majority of horses go better with blinders.

DAVID BUFFUM.

Avoiding Milk-Fever

MILK-FEVER may be prevented by giving all the cows in good flesh or those that are being well fed a pound dose of Epsom salts about a week before they are expected to give birth to their calf. Give this by dissolving in water. Pour down the throat.

C. D. SMEAD.

The Best Dairy Market

EVERY dairyman, whether he has few or many cows, is interested in placing the product from his herd where he can get the highest returns. The final test of his success depends on his ability to find a satisfactory market for his milk or milk product.

The market of the dairyman's product is a factor which demands careful and close attention. Generally speaking, the market price of dairy products varies with locality and season, and it is largely controlled by the factors of demand and supply.

Dairy farmers who have given the marketing of their product careful thought agree that more money is made with winter milk than with summer milk. During the winter months prices of most dairy products are from twenty-five to fifty per cent. higher than during the summer months.

The consumption of dairy products is fairly uniform throughout the year. In winter the supply is generally short, causing correspondingly high prices. In summer, when most of the cows are fresh and are feeding on pasture, there is usually a great overproduction of milk, which causes prices to drop.

With the help of the silo the difference in the cost of feeding in summer and in winter is comparatively slight. The dairyman can, therefore, materially increase the returns from his herd by having his cows freshen in the fall instead of in the spring. In this way he is producing the bulk of milk during the time of shortage and high prices. Winter dairying also tends to increase the annual milk-flow. If the cows freshen in spring, there is a natural tendency for them to shrink in their milk-flow by about August. This natural shrinkage can be checked materially by feeding succulent feeds. In August pastures are usually very poor and dry, and unless the pasture is supplemented by other succulent feeds, such as soiling crops or silage, if any is left over from the previous year, there is a permanent falling

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You can take a useless and dangerous animal and double his value in a short time by these easy, simple methods. And these horses will be cured of shying, kicking, balking, hitting, fear of automobiles and all other bad traits forever.

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\$1,200 to \$3,000 a Year At Home or Traveling!

Competent Horse Trainers are in demand everywhere. People gladly pay \$15 to \$25 a head to have horses tamed, trained, cured of bad habits, to have colts broken to harness. A good trainer can always keep his stable full of horses.

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Breaking horses of every conceivable habit, no matter how long standing it is. Training colts to be absolutely trustworthy and useful in 8 hours. Riding with perfect ease and control. Training horses to go all the saddle gaits and do fancy steps. Training horses to do the most difficult and interesting tricks. Telling any horse's disposition at sight—judging a horse right the first time. There is no limit to what a horse can be taught when you know how.

We receive hundreds of letters like the following:
J. O. Brown, Cameron, Mo., writes, "Last month I made \$300.00 training colts, besides my regular farm work."
A. W. Bower, Tipton, Ind., writes, "You have made me a practical colt trainer, have all the work I can do and make more money than ever before."
S. M. Ryder, Mercersburg, Pa., writes, "I am making money buying 3-year-old kickers cheap, handling them a few days and selling them, perfectly broken, at a large profit."

A. L. Dickenson, Friendship, N. Y., writes, "I am working a pair of horses that cleaned out several different men. I got them and gave them a few lessons and have been offered \$400 for the pair. I bought them for \$110."
O. B. Hill, Robinson, Ill., Route No. 3, writes, "Three weeks ago I paid \$125 for a 5-year-old kicker; yesterday I sold her for \$235."

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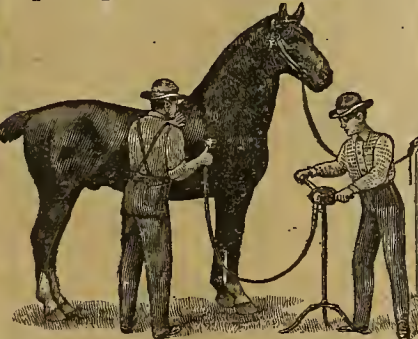
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IS GAINED
BY "WORKING LIKE SIXTY"
HOW IS SUCCESS
AFTER SIXTY WON?

For three generations the Pope family have lived on Bonnymeade Farm at Manchester, Maine, while pursuing their trade of blacksmiths. The grandfather, John Pope, marketed the first tempered steel hay forks in America; but competition finally compelled him to give up their manufacture. His son, Alton S. Pope, marketed the first tempered steel wedge for granite quarries, but once more the competition of big manufacturers made their business unprofitable. Then it was that Chas. S. Pope, of the third generation, and already nearly sixty years of age, gave up the business of his ancestors and went to dairying in earnest, using a

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That was twelve years ago. Since then Mr. Pope has done more for his family and accumulated more wealth than he or the two preceding generations had been able to accumulate following their trade. He has given his three sons a college education. He has bought on several hundred acres of farm land and erected new buildings. Last year he sold



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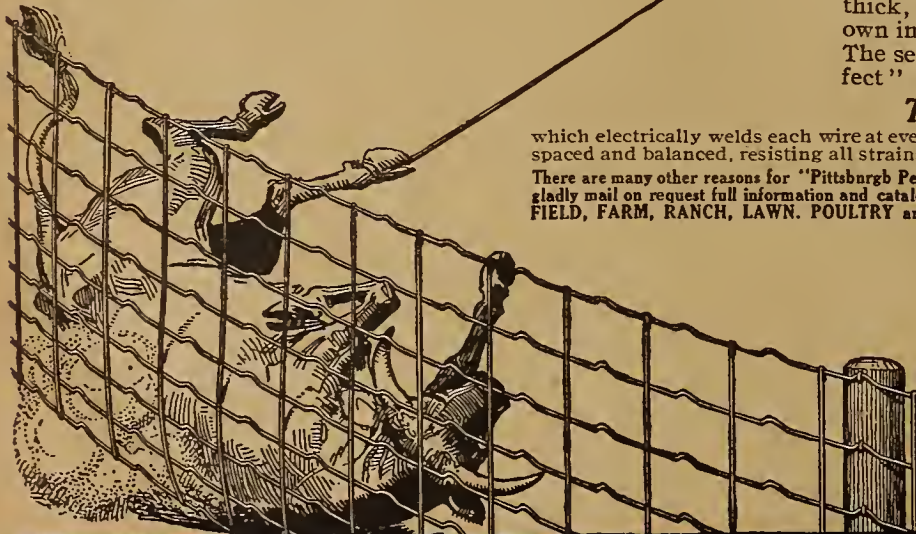
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off in milk. If the cows freshen in fall, they yield their large milk-flow during the winter months, and by the time of their natural shrinkage they can be turned out on green pasture, reviving their milk-secreting powers and prolonging their milk-flow.

Kind of Products to Sell

The question of what is the most profitable form of dairy product to sell off the farm is a complex one and cannot be answered offhand. If the milk is sold as milk, it either is retailed to the consumer or sold in bulk, by the gallon, by the hundredweight, or on the basis of the butter-fat it contains. The usual markets for milk in bulk are the city milk-plant, the condensory, the cheese-factory. The city milk-plant and condensory offer higher prices as a rule than the cheese-factory.

Again, it may be desirable to keep the skim-milk at home for feeding purposes. In this case the milk is separated on the farm and the cream is sold as sweet cream, either at retail in bottles or in bulk by the gallon. Or, in the absence of sweet-cream markets, it may be shipped or hauled to the creamery and sold on the basis of the butter-fat it contains.

Finally, there may be opportunities for a good market of farm butter, in which case it may be desirable to sell butter off the farm.

The choice of any of these markets must necessarily depend in the first place on the location of the dairy farm. If located near a good-sized town or city, a retail milk route offers, in all probability, the most profitable market. If too far removed from such consuming centers to warrant retailing the milk, a city milk-plant, condensory or cheese-factory may be within reach to receive the milk by rail or by wagon. If this is not feasible, the cream may be hauled to a near-

In considering these markets the dairyman should not be governed by the price alone, but should also carefully consider the value of the skim-milk, the expense of shipping or hauling milk or cream, the cost of retailing milk or cream and, in the case of butter-making on the farm, the probable overrun, the cost of making the butter and the expense of putting it on the market. All of these factors, combined with the market price of the product, control the net profits.

In order to discuss these several points understandingly, the reader is referred to the accompanying table. The figures therein show the market value of milk per hundred-weight, milk paid on the butter-fat basis, cream sold on the butter-fat basis and butter made on the farm where the market prices of milk of different richness vary from 10 to 20 cents per gallon. The table shows, for example, that when 3.5 per cent. milk brings 10 cents per gallon, it is worth \$1.16 per 100 pounds, or 33 cents per pound of butter-fat it contains; that 20 per cent. cream is worth 40 cents per gallon, or 23 cents per pound of butter-fat it contains, and that butter is worth 23 cents per pound, etc.

These prices are what the dairyman should get on the market when the market price of one gallon of milk of a given richness is known. Skim-milk and buttermilk were valued at 20 cents per 100 pounds, the expense of shipping milk was figured at 2 cents per gallon and that of cream at 3 cents per gallon. In figuring the price per pound of butter-fat in cream, 30 per cent. cream was used as the basis. The prices per pound of butter were based on a 1/6 overrun (7 pounds of butter are made from 6 pounds of fat) and the amount of skim-milk and buttermilk was figured equal to the amount of milk used, less five sixths of one pound. The cost of making butter was

Price Equivalent of One Gallon of Milk for Milk, Cream, Butter-Fat and Butter

PRICES OF MILK				PRICE OF CREAM		BUTTER
Per Cent. Fat	Per Gallon	Per 100 Lbs.	Per Lb. Fat	Per Gallon for 20 %	Per Lb. Fat	Price Per Pound
3.5	\$0.10	\$1.16	\$0.33	\$0.40	\$0.23	\$0.23
	.12	1.39	.40	.51	.29	.27
	.14	1.62	.46	.62	.36	.34
	.16	1.86	.53	.74	.43	.39
	.18	2.09	.60	.85	.49	.45
4.0	.20	2.32	.66	.96	.56	.50
	.10	1.16	.29	.35	.20	.20
	.12	1.39	.35	.45	.26	.25
	.14	1.62	.40	.55	.32	.30
	.16	1.86	.46	.65	.38	.35
4.5	.18	2.09	.52	.74	.43	.40
	.20	2.32	.58	.84	.49	.45
	.10	1.16	.26	.32	.18	.19
	.12	1.39	.31	.41	.23	.23
	.14	1.62	.36	.49	.28	.27
5.0	.16	1.86	.41	.58	.34	.32
	.18	2.09	.46	.67	.39	.36
	.20	2.32	.52	.75	.44	.40
	.10	1.16	.23	.29	.16	.17
	.12	1.39	.28	.37	.21	.21
	.14	1.62	.32	.45	.26	.25
	.16	1.86	.37	.53	.30	.29
	.18	2.09	.42	.61	.35	.33
	.20	2.32	.46	.68	.40	.37

by local creamery or shipped to a more distant centralized creamery. In the absence of proper facilities to haul or ship milk or cream, it may be advisable to make butter on the farm, personally marketing it.

estimated at 3 cents and the expense of delivery at 2 cents per pound. The weight of the milk and cream was figured.

- 1 gallon of milk weighs.....8.6 lbs.
- 1 gallon of skim-milk weighs.....8.6 lbs.
- 1 gallon of 20 % cream weighs.....8.4 lbs.
- 1 gallon of 30 % cream weighs.....8.3 lbs.

In the case the cream is hauled to the creamery, one cent should be added to the butter-fat prices. O. F. HUNZIKER.

County politics has sent many a farm to the auctioneer.

Keeping Government Accounts

[CONTINUED FROM PAGE 7]

manure which he produced during the year, which was valued at \$12 per animal. The net profits resulting from the horse department in 1910 amounted to \$246.50.

Mr. Brigham figures that the cost of raising a calf is about \$50. A day or so after birth he takes the young animal away from its dam and feeds it on new milk, gradually shifting the calf to skim-milk, grain and alfalfa-hay, as the youngling will feed on these articles. It costs about \$6 to feed the calf during the first month, this being the most expensive feeding period in the life of the animal. Last year the average production of the dairy herd was 5,252 pounds of milk, containing 256 pounds of butter-fat per animal. The average cost of feeding a cow for the year amounted to \$49.41, while her labor expense was \$27.97, bringing the total cost up to \$77.38. For the year the herd returned a gross profit of 16 per cent. on the investment, which, including buildings and equipment, amounted to \$150 per animal. In 1909 the gross profit from the dairy herd was 21 per cent. The average value of the milk product of each cow was \$84 during 1910.

Just such complete reports as this make his work of inestimable value to himself and to all others who know of the reports.



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which electrically welds each wire at every contact point, and produces a solid wire fence, perfectly spaced and balanced, resisting all strains and shocks with its whole surface.

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Makers of "Pittsburgh Perfect" Brands of Barbed Wire, Bright, Annealed and Galvanized Wire, Fence Staples, Standard Wire Nails and "Pittsburgh Perfect" Fencing.





The FARMERS' LOBBY.

Draining the Everglades

By Judson C. Welliver

THERE'S another fine young feud going on at the Department of Agriculture. This time the fuss is over the question of draining and selling the great Everglades swamp in Florida. Four officials of the Bureau of Soil Drainage have been either dismissed or suspended; the grand jury of the District of Columbia is looking into charges involving their conduct; the Department is being denounced vigorously and voluminously. Altogether it is a big affair.

It illustrates what a wide range the activities of the Department have taken in recent years; but it doesn't seem to justify by any means the violent manifestations of disapproval that have been directed against Secretary Wilson. It does suggest a lesson that people need to learn, about the inadvisability of buying pigs in pokes. A poke is a bag. When you buy a pig in a poke, you see the bag, and take the word of the other fellow that the squirming object inside is a pig.

Many, many years ago this question of draining the Everglades and turning them into a modern Eden was broached by enterprising Florida people. Long before the project took the serious form that gave promise of legislation, a clever press agent put out the story that some wise biblical student had discovered that the original Adam-and-Eve garden of Eden was located in Florida; right in the Everglades, in fact. It was a mighty good story, with a fine array of historical, geological and biblical testimony to sustain it; but one important item of the proof was omitted—the snake story. Eden wouldn't have been Eden without the snake. The Everglades surely was the place for it, if the serpent part of the scriptural story is to be given prominence. The snake is there; enough of him to tempt all the Eves there are, even in this generation of congested populations.

A District Soaked with Water

It's half a century or so ago that the first real survey of the Everglades was made. This big swamp covers most of the butt-end of the Florida peninsula, and used to be dreaded about equally for its snakes and its Seminole Indians. That first survey developed that the Everglades region is a saucer-shaped basin with Lake Okechobee at the lowest part. This is a good big lake, set in a bowl scooped out of the rock foundation of the peninsula. The whole surrounding region is described as a limestone saucer, filled in, except the lake itself, with a soil made of decayed vegetable matter.

This whole district is soaked with water; at times much of it overflows, and still other parts are under water practically all the time. The problem of draining it all and turning it into garden-patches to raise fruits and vegetables for our northern markets has been most attractive for many years. It has commanded the interest of capitalists, promoters, politicians and substantial citizens of Florida. The swamp-lands at first belonged to the national government, then to the State, who gave away a huge area to railroad promoters. Years afterward this deed was revoked, on the ground that the railroad hadn't been built according to contract.

The present great project of State reclamation had been talked about a long time before Napoleon B. Broward came to the front. Broward was a progressive. He believed thoroughly in the feasibility of the plan, and told the Floridians that they ought to keep the lands, do their own draining and make the money out of them. He ran for office on this issue and finally was elected.

"The Swamp Can't Be Drained," Said Some

RIGHT away there was violent opposition. One faction said it was impossible to drain the swamp, might as well talk about pulling down the moon, irrigating it and using it for cow-pastures. The other said that the scheme was perfectly good and charged that really the opposition was backed by the East Coast railroad crowd, which wanted to drain and sell its own lands at fancy prices, without any competition by the State. So the issue was expanded from drainage and anti-drainage to railroad and anti-railroad. Broward, who was a big, forceful man, had his way. He got the legislature to provide a plan for drainage of the lands under State control, establishing an internal improvement fund to be furnished by the State, and reimbursed from the money for which the lands should be sold. Contracts were let, big dredges set at work—and the festive real-estate agents appeared on the scene.

These gentlemen were prompt to see the good thing. It was fine to talk about: the great State of Florida was

doing the work; its credit and wealth were pledged to success of the enterprise; good engineers were in charge; it was perfectly certain that the project would be a success, and now was the time to get in on the ground floor.

The "ground floor" was in many cases under several feet of water; but what of that! The State was digging big canals to drain away the water, and pretty soon the land would be appearing, ready to raise grape-fruits, oranges, January onions, February potatoes and all the other high-priced delicacies for which the northern markets were anxious to pay exorbitant prices. The real-estate agents contracted to take on the lands, paying very low prices for them—down to fifty cents an acre, I am told, for lands that have since been sold at fifteen to sixty dollars per acre.

The thing went like hot cakes. People bought contracts to pay in instalments, and in all kinds of ways. After a while the conservative buyers got to wondering whether they were going to come out all right, and ultimately the Department of Agriculture was asked to investigate the whole project.

Engineer J. O. Wright was sent to make the investigation. He put in about two years at it, and made up a report, which was at length turned in to his superiors at the Department.

Wright appears to be a very well-qualified engineer. But his report impressed some of his superiors as unduly roseate, at some points, in its view of the project. Dr. C. G. Elliott, chief of the drainage division, felt that way and wanted Wright to modify the document in some particulars. Wright declined, and the report was not published.

While working on this investigation, Wright became acquainted with the Florida authorities and liked them. They liked him, too; liked him so well that they offered him the job of chief engineer in charge of the State's drainage work, at twice the salary Uncle Sam was paying him. Elliott's faction opined that Wright's report was not to be taken too seriously, in view of the fact that the making of it afforded Wright the opportunity to make such a good contract with the State improvement board.

Wright Went to Florida

IN DUE time Wright took the State job and went away from the government service. The Florida boomers of Everglades lands wanted that Wright report published, because they considered it would put the O. K. of the federal government on the project. Elliott would not publish the report because he thought it was too much of a boom document.

Meanwhile, parts of this unpublished report had been sent to some of the Florida authorities for use in connection with a legislative investigation of the reclamation project; and these parts were given publicity in that connection. Extracts, in some cases garbled and misleading, were seized upon and used in advertising the lands for sale, and the result was a vigorous demand from all kinds of people for publication of the entire document.

Elliott, who believed the report was too optimistic, instead of relaxing his opposition to its publication, did some investigating on his own hook and got out a little circular that he sent out to inquirers for information about Everglades lands. This circular was anything but optimistic. It said these swamp-lands must first be drained of water; but after that they must be irrigated, because they were composed of peat, and if they got too dry, were liable to catch fire and burn up! He said unpleasant things about the climate, and pointed out that a good deal of fertilizer must be used to make crops grown in the reclaimed soil.

This circular was sent out without authorization by Secretary Wilson, and when the real-estate sellers got hold of it, they blew up. They started to get Elliott's scalp. All sides appealed to Secretary Wilson. Elliott stuck for his view; the Florida boomers stood pat for theirs. The differences were irreconcilable. Secretary Wilson was in the position of having his own advisers divided. Wright had made that report while he was in the government service, and insisted that it was all right. Elliott insisted it was largely all wrong. The

Secretary, uncertain what he ought to do, decided on what seems to me the safe procedure in such a situation: he would do nothing. He refused to publish the Wright encomiums, and he ordered no more of the Elliott condemnations sent out.

After discussing this question with people from all sides, it seems to me the Secretary was right. It isn't gracious for the federal government to condemn a great public-spirited enterprise that a sovereign State has undertaken. The federal government wants to encourage the States to do just such work. There was the sharpest sort of conflict about the merits. One government engineer said the project was all right; another was just as sure it was all wrong. The Florida people were similarly divided.

So Secretary Wilson said something about "a plague on both your houses," and declined to mix in the muddle. The fight got hotter, and last summer went to Congress. Senator Fletcher of Florida got a resolution passed, directing the publication of the Wright report as a Senate document.

That settled it. The report could be no longer suppressed, and it has recently appeared in print—a good-sized book, which both sides say establishes their respective contentions.

Who Has Really Won?

ELLIOTT meanwhile went on whaling away at Wright, and Wright criticizing Elliott. Finally Wright, on January 19th of this year, made charges against Elliott. He accused Elliott and some of his subordinates of irregularities in the management of the funds at the disposal of their bureau. The four accused men were called up and frankly admitted that they had done what was charged. It was irregular and improper, and there was nothing to do but dismiss or suspend them, and the Secretary did just that.

These charges, it must be understood, had nothing to do with the Everglades matter. Wright happened to know the facts, because he had been in the government service. He told the story as a means to getting back at Elliott for assailing him.

The substance of this matter for which Elliott et al were dropped was that the drainage division had been doing some work in North Carolina—surveys, investigations, etc. Before the work was completed, the appropriation became exhausted, and it was necessary to wait till more money should be provided by Congress. Elliott permitted one Wilkinson, a land-dealer and promoter, to advance some money with which to complete this work, and later, after the expected appropriation had been secured, he placed on the roll of his division, as an employee, a man who in fact was not such, paying for several months a salary. This was the way Wilkinson was reimbursed for his advance. Elliott and the others who were in the plan made nothing out of it, and it had nothing whatever to do with the Everglades matter; but it was enough to cost Elliott his job, to get the federal grand jury at work probing the irregularity and to give an apparent victory to the Wright faction in the Florida quarrel.

The Secretary Was Right

INCIDENTALLY, it provided the critics of Secretary Wilson with another club that they have been wielding vigorously in their attacks on him. A lot of newspapers, especially in the big cities where nobody knows or cares anything about the Department of Agriculture or its work, and among which it is rather popular to poke fun at people who raise corn and pigs and milk cows and do all such simple things, have assumed that the Elliott irregularities were immediately related to the Everglades matter, and that the Department was involved in a horrible lot of graft in connection with the real-estate operations in Florida. That is utterly untrue. There has been nothing to justify such charges.

The merits of the Everglades drainage scheme are not illumined by anything that has come out in this connection, except in so far as the Wright report illumines them.

The investor in Everglades lands would learn a good deal more by going and seeing his lands than by reading any reports that have emerged from this jumble. People buy lands all over creation, and the rule is that those who see what they buy first, don't usually lose what they invest; those who buy first and see afterward, too commonly come out at the small end of the horn. That's as true of Florida as of any other place.

The Road to Happiness

A Story of the Common Lot

By Adelaide Stedman

Author of "Poor Relations," "Miracle," "Intellectual Miss Clarendon," Etc.



MR. JOSEPH TAYLOR is the father of the heroine of the story. He has always lived beyond his means, and rather than endure the disgrace of a financial crash disappeared.

MRS. JOSEPH TAYLOR, his wife, a society parasite, who is quite helpless without riches.

FRANCES TAYLOR, the heroine of the story, who is in love with Norman Norris, even after breaking her engagement to him. She is wooed by Jacob Jordan, who offers her financial aid in her troubles.

CAROLINE SANDFORD, a middle-aged, unmarried woman, who helps Frances in her financial straits by starting her as boarding-house mistress in a big house in a fashionable neighborhood, but in which business Frances fails.

NORMAN NORRIS, a country boy, who has succeeded as a lawyer in New York and who loves Frances, but who broke his engagement to her because of her seemingly frivolous nature. He has never ceased to love her, although his love, he thinks, is hopeless.

JACOB JORDAN, a member of a wealthy and aristocratic New York family, who is madly in love with Frances and who is just as willing to marry her after her misfortune as before her financial loss. He takes a malicious delight in her troubles, hoping thereby to strengthen his power over her.

MR. WEST, Mr. Norris' head clerk, a man of fine and gentle nature, who has fallen in love with Caroline because of her kindly disposition and her efforts to relieve distress.

"Oh, why didn't you come sooner, Norman?"



WILSON C. DEXTER

Part IX.—Chapter XIX.

AT FIVE o'clock Norman took his small friend home, and he found in the beaming-faced child a pleasant reflection of his own radiant mood.

There was something about the grave, kindly look which was Norman's habitual expression, that attracted all little folks to him, just as his glance very often set a stray mongrel to wagging its tail or caused a homeless cat, starved and gaunt, to begin a long purr of content and follow in his wake.

Arrived at Mrs. Hughes, that lady informed Norman that Mr. Taylor's wife and daughter had taken him home a half-hour since, so Norman deposited his excited little charge, who, after giving him a moist, warm-mouthed kiss of fervent thanks, began regaling his mother with a tale of the afternoon's joys.

Norman returned to his office in a happy reverie. He was free to love Frances again, to lavish on her all of his pent-up tenderness! He watched the mass of home-going men with smiling eyes. Soon he would be one of that enviable procession jamming into the already overcrowded cars, and at the end of his ride would come a quick dash along the street and up the steps of his house, the latch-key in his hand. And Frances, from the living-room, would hear the metal rattle in the lock, as only the ears of love can hear, and she would come running to meet him, and tell him how nice and cold his face was as it was pressed to hers in a kiss! Then, after a little, they would go into the dining-room, and Frances would assume quaint new housewifely airs and pout prettily, as only she could pout, if he failed to appreciate some delicacy bought for his special benefit. Then, in this night of his dreams, they would sit in the living-room, enjoying a long, cozy evening alone. What would they talk about, he wondered—he and his wife! A mist came over his eyes, forced there by the sweetness of his imaginings, for to him home spelt an earthly heaven.

Presently his thoughts drifted in pity to Mr. Taylor and the struggle that was before him: What could he do to assist him materially? How could he lighten his task for him? Pondering the question, he arrived at his office; and too preoccupied even to be surprised at the message that "Mr. West was at Miss Sandford's if Mr. Norris wished to reach him," he went into his private sanctum to continue his meditations.

Suddenly an acceptable idea seemed to strike him. He had heard from Caroline that day what she knew of the transaction to save the house the Taylors were then living in, and he had wondered a little at the unbusinesslike methods of The Home Real Estate Company.

Now he got them on the telephone and inquired if the mortgage on the property was for sale.

"It was foreclosed to-day, but the house itself was listed not an hour ago!"

Norman felt a throb of thankfulness at having intervened just in time, even as the queerest of the whole transaction steadily began to dawn on his mind.

"Can I come right over and have a little talk about

it?" he queried, and on receiving an assenting answer, locked up his offices a little earlier than usual, and hurried over to those of The Home Real Estate Company.

He found himself presently in a very luxurious ante-room surrounded by frosted-glass doors in mahogany frames, leading into the various private offices, and while he was waiting one of the elaborate doors, on which was printed in gold lettering Vice-President and General Manager, was swung open, and from the room beyond stepped Mr. Jordan, ready for the street.

Out of the abundance of his good humor, Norman hailed him almost cordially.

"Hello, Jordan! What are you doing here?"

Mr. Jordan started slightly, then his usual mocking smile appeared, and returning Norman's greeting, he answered,

"Working, unfortunately."

"You don't mean—" Norman exclaimed, a host of conjectures springing up in his mind as his eyes again sought the gold lettering on the glass door.

"—that I am Vice-President and General Manager here?" Mr. Jordan finished, following the line of Norman's gaze. "I certainly do! However, I'm not surprised that you don't know. It's quite a new honor." He spoke easily, not in the least suspecting the cause of Norman's visit; so when a clerk came up at that moment, the General Manager was astonished to hear him say:

"I'm sorry, Mr. Norris. I thought Mr. Whitaker was in, but he's just gone! I generally know about the houses myself, but the Taylor property, just being listed an hour ago—"

Suddenly, as they had months before in the Taylor library, the two men's eyes met and clashed; then Mr. Jordan, conventionally businesslike, suggested politely, "Perhaps I can give you the information you want."

It was an intensely awkward situation. The knowing, ironic gleam in Mr. Jordan's eyes told Norman that evasion was useless, and, moreover, he hated quibbling and the stinging insinuations of verbal fencing, therefore, looking steadily at Mr. Jordan, he said without excuse or explanation: "You can, thank you. I want to get an option on the house."

Jacob Jordan turned toward his office with an affirmative nod, and ushering Norman in, closed the door behind them.

Norman stood erect, his hands clasped behind him, even after his conductor had motioned him toward a chair.

Mr. Jordan's ironical smile broadened. "So you're still in the running!" he remarked. "By Jove, but you're an interesting rival, Norris! Most of the men who are out after my scalp, in one way or another,

generally clap me on the back and ask me to lunch at their clubs as a preliminary! But you won't even accept a chair in my office, eh?" He laughed with evident sincerity, though with no less evident malice, and went on as he saw the slow red of anger mount into Norman's face. "It's fortunate for me that Miss Taylor hasn't been taught to appreciate the primitive type!"

Norman's eyes flashed indignantly, but with the self-control that so often won him points in court, he answered, "So clever a man as you are, Jordan, ought to be able to ridicule me without using Miss Taylor as a weapon. We will leave her name out of this, if you please. I would like to buy that house. Will you sell it to me, or won't you? I'll know at once by the price if you mean to refuse, so you may as well be frank."

Mr. Jordan threw aside his mask of easy cynicism at the brusque defiance in Norman's words.

"I will sell it to you," he answered mockingly, "when I am convinced that Miss Taylor would rather have you than me own it—and not before!"

"I dare say Miss Taylor has as little choice in the matter as I have!" Norman spoke confidently, but secretly he was uneasy and disturbed.

"Somebody had to step into the breach and help her," Jordan declared. "You didn't, so I did. And to-day she did me the honor of telling me that she appreciated that fact."

"You mean that Miss Taylor knows that you are the practical head of the company that owns their house?"

"Certainly!" Jacob Jordan would hardly have lied deliberately, but this half-truth troubled him not at all.

Norman felt all of his high spirits, his elation, vanish. After all, what surety had he that what had been true of Frances' feelings at the time of her father's disappearance was true of them on his return? As always, Mr. Jordan's calm maliciousness was tremendously convincing; but this time Norman struggled against his sudden despondency, remembering how this smooth-voiced gentleman had influenced him before. He knew that Caroline knew nothing of Mr. Jordan's connection with the firm, and he felt almost certain that in some way Frances had also been duped; but if Mr. Jordan had had any secretly sinister designs, why was the property for sale now? These conjectures flashed through his mind in an instant, and he doggedly determined to sift the affair to the bottom. Therefore, he said steadily, his words proving the ultimate ineffectiveness of the other man's finesse: "I think I will consult Miss Taylor herself about these matters."

Jacob Jordan's fingers beat a rapid tattoo on his chair-arm, as he sought for a way to prevent this dreaded contingency; then, before he spoke, the telephone-bell rang shrilly.

With a murmured begging of pardon, he answered the call, and suddenly his face gleamed with malevolent delight, and he exclaimed aloud, "Oh, yes indeed, Miss Taylor! How do you do, my dear little lady!" It is impossible to describe the possessive tenderness conveyed by his voice.

Norman felt himself turn cold and sick, while the whole room whirled, except the one spot where the alert figure was leaning toward the telephone, lips curled triumphantly as the conversation continued:

"After church to-morrow? With all the pleasure in the world! . . . Twelve-thirty sharp. . . . And how is your father? . . . That's splendid! Give him my kindest regards, won't you? You must be worn out! . . . Yes. . . . Good-by."

For the moment, Norman's old passionate belief in facts, regardless of possible conflicting motives, possessed him again. Frances' message seemed incontrovertible evidence of her feelings. But now he did not blame her, but himself. How quickly he had condemned her in his own mind. How harsh and unforgiving he had been! How ready to believe in her inconstancy. What wonder if she came to believe that he no longer cared and put him out of her life. Moreover, he was miserably conscious of the worldly fascination, the polished charm, of the man before him; about whom he knew nothing actually wrong!

He would go away and leave Frances to her happiness. Why should he force her to re-live with him the old bitterness? He knew all that was necessary now!

When Mr. Jordan finally turned from the telephone, Norman was already standing by the door, his face as stoical as an Indian's.

"Good-evening," he muttered stiffly.

Mr. Jordan rose with a courteous bow, but just before the door closed behind his visitor he called genially,

"Come again! Perhaps we can do *some* other business with each other!"

Chapter XX.

DURING the kaleidoscopic afternoon of her father's return, Frances passed through deep waters. She suffered the most torturing of feelings, doubt of herself, of her action in promising to marry Mr. Jordan, of its results. Her father's pathetic happiness and her mother's relaxed face and caressing complaisance argued that she had done right, while an unceasing inward voice cried out in protest, violent and clamorous. However, she managed to present to her parents a smiling face, and neither of them was in a mood to look for subtle signs of tragedy in a laugh pitched too high, or in lips that trembled as they turned upward.

Mr. Taylor, on being taken home, expressed his eagerness to see his future son-in-law, and Mrs. Taylor, inexorable as ever, maneuvered until her daughter went to the telephone and took her part in the conversation which had dropped Norman from his pinnacle.

Frances dully did as she was told. After all, it mattered very little if the final step were taken then or the next day; so she asked Mr. Jordan to meet her at church and then return with her to dine, with a curious sense of fatality, which Mr. Jordan's calm, unsurprised voice intensified.

She recalled a phrase of his in the letter that had so infuriated her, "You are going to marry me. The only question is one of date," and a last mist filmed her eyes as she recalled how indignantly and positively she had derided his pretensions.

However, despite her lethargy, the tireless little monitor persisted in its wordless warning, fainter during the early evening, appallingly loud as she lay wide-eyed from midnight to dawn, but morning brought with it no fresh solution of her problem.

She went to church alone, Mrs. Taylor declaring that her husband needed her, but Frances knew that it was only her mother's final move in her triumphant game of hearts.

So the girl rode to church through the sunshine of a cold clear Sabbath, too weary in mind and heart to be conscious of anything but dumb suffering. Once inside the edifice, however, the tension seemed to relax. The service went along unheeded, while, throughout the deep solemnity of prayers, the rich call of the organ, the triumphant hymns of spiritual faith, she alternately sat and stood, her eyes fixed straight ahead, her face gradually assuming a look of peace, until before the final hymn she leaned back in the cushioned pew—at rest. Evidently she saw her course clear at last!

Mr. Jordan was no church-goer, and it was only at the end of the service that he entered the sanctuary, and then, after a cursory amused glance at the congregation, he riveted his attention on the girl who was sitting so still, apparently the most devout of worshippers.

Frances did not see Mr. Jordan until they met in the outgoing crowd, and he slipped a guiding arm through hers and led her swiftly through the crush, out into the open street. Then he looked at her, smiling caressingly, only to frown as she withdrew her arm from his with a quick, shrinking motion.

"Still so coy?" he laughed mockingly. "Well, I'll make things easier for you. I already understand your message perfectly! You were overwrought yesterday afternoon. You said things that were very contradictory and altogether feminine, and you were afraid that I didn't realize all that and would take your little outburst too seriously." He smiled tolerantly and calmly took her arm again to help her across the crowded thoroughfare at the beginning of the homeward journey before he continued: "You will know me better some day. There is very little which I don't care to believe that I take seriously."

Frances glanced up at him appealingly. "Please don't be clever and cynical this morning," she begged. "I want to feel that you really understand what I'm going to say."

His eyes gleamed with amusement as he nodded assent.

"Very well. Behold me, ready to be deeply impressed!"

The girl saw that he meant to be sincere, that the innate flippancy of his words originated in recesses as deep as character and could not be changed; so without further ado she told him briefly of the scene with her father, omitting only the mention of her mother's part in the proceedings. When she related her father's gratitude at Jordan's delicacy in saving the house for them, he broke in with apparent regret.

"I am sorry to say that yesterday the company decided to foreclose the mortgage, and I was powerless to prevent it any longer, but, of course, it doesn't matter—now!"

Frances gave him an odd, strained look, as she uttered a low exclamation, but she made no remark, merely pausing a mo-

ment to allow him to add anything he wished, then continuing hurriedly, until she ended.

"So you see there seemed nothing for me to do but consent! You understand, don't you?"

Jacob Jordan understood only too well, and he was hurt deeply. Never had his smile been more sardonic than as he looked at the slight figure beside him and said: "I suppose you feel heroic to be telling me this. I dare say the resolution 'to tell the truth and nothing but the truth' came to you in the sanctity of the church, but, do you know, I think a little justifiable lying would have been kinder as long as you *are* going to marry me!"

"But I'm not going to marry you, Mr. Jordan!"

The words were spoken very softly. Her voice a mere resolute whisper, but no bomb could have produced more violent results. Mr. Jordan seemed to realize their finality, as the one word "Frances!" escaped furiously from his lips.

"I know I owe you an explanation," she faltered. "All day yesterday I thought I was doing right in sacrificing myself to make others happy, as long as we both understood the situation, but always something inside of me protested—and I didn't know what it meant until this morning. And when I did find out, I knew nothing on earth could make it right for me to marry you while I loved—someone else!"

She tried to speak bravely, but her voice broke on the last words, which Mr. Jordan regarded as the very climax of his humiliation.

He could not bear to lose! A mixture of anger and love lashed him into a kind of cold frenzy.

He poured forth arguments such as only he could frame. He tortured her with pictures of her parent's future, he pleaded with her, he bullied and threatened. Hurrying along the streets, he spoke as few men could speak in the privacy of their homes, but all to no purpose.

Frances' negative silence was never broken until she stood on her own doorstep, then, goaded by his stinging sarcasm, she paused to say: "I think you have had long enough to express your opinion of me, Mr. Jordan; and you've given me time enough to form a new one of you. I've always been sorry for you until this morning. You've always fascinated me in spite of myself; but at last you've thrown aside your mask. You've tried to take advantage of my weaknesses; you've used my faults to secure your own ends; your very generosity was nothing but a clever trap, thrown aside as soon as you thought you had caught me! I know you too well not to believe that you could have saved this house if *you* had wanted to!"

She mounted a step higher, her brown eyes shining, and finished breathlessly:

"There's only one person in all the world that you really love, and that's yourself!"

She saw his long thin face whiten into an ashy pallor, even as the mocking smile which never failed him played on his lips, while she stood tensely regarding him, waiting for his answer.

None came. Tall and erect, he stood quite still for a moment, his gloved hands clenched, then, correct as ever, he lifted his high hat, tucked his cane under his arm and walked out of her life.

Chapter XXI.

FOR the first and only time in her experience, Frances welcomed her household duties that Sunday noon. She well knew what her interview with her parents was bound to be, and her new-found resolve needed time to harden and strengthen. So she welcomed Clara's tale of woe about "chickens that was all skin 'n bones" and "cake that done look as if some 'un done punched it in the middle" and hurried straight down to the kitchen, sending the maid up-stairs to say that, after all, Mr. Jordan could not dine with them and that she would be detained down-stairs. Gladly she took advantage of the brief reprieve. At least her father would dine in peace!

She attacked the dinner problems with a kind of desperate energy, thinking drearily that she would have their duplicates to contend with for many a long day to come. They would have to move, but there were other houses! At least she would not be a burden to her parents if she could not marry to please them. Somehow, in some way, she would make a success!

Her soft chin squared resolutely beneath her trembling lips; and as she stared abstractedly at the platters she was garnishing with sprigs of parsley, she wondered why she did not feel more desolate, more despairing; why a species of peace had come to her—sad, like the calm that comes after a destructive battle, but nevertheless a calm! Love and happiness were evidently not for her; so she would do her duty cheerfully and work for her parents with hands and brain until they could not doubt her devotion.

She even began to plan how best to meet the dreadful avalanche of bills, so that by the time dinner was served the thrice-blessed practical, every-day cares had displaced her load of personal anxiety and sorrow.

She sent an attractive tray up-stairs to her parents, but ate in the dining-room herself, well knowing how carelessly the dinner would be served if she absented herself. However, her thoughts drifted helplessly away from the menu, to try to find the best way to broach the dreaded subject to her parents.

Before she left the table, however, the telephone-bell rang, and in a moment Clara summoned her, saying:

"Fo' you, Mis' Frances."

The girl took up the receiver wearily, then straightened as with an electric shock, as she exclaimed shakily, "Norman! You!" Her lips parted in breathless listening until she murmured, "Oh, yes, I'll be at leisure. . . . What's that? You thought Mr. Jordan was here. Oh, no." Her voice sounded queer and strained to her own ears, and she vaguely realized that she was crying softly into the telephone. Again she listened tensely, then stammered: "Do I object to seeing you? Why, I want—that is— N-no indeed! . . . At three o'clock then! . . . Good-by."

She heard the faint click of a receiver being hung up, but she still held her own in a daze of fright and joy. At last Norman was coming to her! What did he want? His voice had sounded very grave, she thought, but—

Suddenly she found herself bounding up-stairs, and a moment later her mother and father were each amazed to receive a quick impetuous kiss, and to hear their daughter, starry eyed and radiant, announce incoherently: "Norman just telephoned! He's coming to see me!" Then with an odd aftermath of repression, "I can't imagine what he wants—but I must dress, mustn't I?"

Almost with the last words the joyous apparition vanished, leaving Mr. and Mrs. Taylor to stare at each other in puzzled wonderment.

In a moment Mrs. Taylor started up to follow her daughter, but Mr. Taylor restrained her.

"Better leave Frances alone, Laura," he cautioned. "I don't understand about Jordan, but a girl only looks so transfigured for one reason! Everything *must* be all right, but—" He paused uneasily, meditating, and his wife sank back into her chair again.

After all, she might as well leave her daughter in peace. Norman or Mr. Jordan, it made very little difference to her now, so long as it was *one* of them!

Frances dressed in a daze of hope and fear, shot through with intense excitement. Never had she found her hair so refractory, or the hooks on her simple white gown so hard to find!

It only seemed a moment until three o'clock arrived, and on the stroke Clara, grinning at the remembrance of the exciting episode in which that gentleman had played a part, brought up Norman's card.

Frances had prepared a prim little speech of greeting which would not indicate her feelings, and she desperately kept it in mind as she flew down the steps, then stopped suddenly as she came in view of the doorway, and went the rest of the way slowly, with flaming cheeks, but hands as cold as ice.

In a moment she saw Norman standing in the old, expectant attitude, and suddenly the memory of how impetuously his arms used to open for her, forced the tears to her eyes, as she entered, murmuring, "How do you do, Mr. Norris," even as she became vividly conscious that his arms *were* opening, and the next she knew, she was in their embrace, crying stormily, clinging to him and murmuring incoherent endearments, blissfully aware that he was calling her his darling and that he was holding her tenderly close!

For a long time both of them totally forgot Mr. Jacob Jordan, as they had forgotten their grievances and the stiff preliminary speeches which Norman had prepared as well as Frances; but finally Norman said, with an ease which he had never expected to utter that phrase, "I thought you were going to marry Jacob Jordan!"

"I *almost* promised to," she faltered shamefacedly. "Oh, why didn't you come sooner, Norman?"

"I didn't think you wanted me! Thank heaven, I made up my mind at last to take my final dismissal from no one but you!"

The explanations all sounded so simple now! All of the anxiety, the bitterness, the long game of cross-purposes, seemed to have been so pitifully unnecessary.

"It's a shame!" Norman murmured remorsefully, after they had told their stories of the intervening months. "I can never forgive myself for being so obstinate! All of this misery might have been avoided."

Frances smiled up at him, shaking her head, and for the first time he saw the tremendous change in her, as he noticed the tender look in her eyes.

"Do you remember when you said that you thought our engagement ought to be a preparation for our life together? You were right, but nothing could have made me believe it—then! I needed this lesson! Marriage seemed just a new kind of exciting fun, but now—"

She paused as her face overspread with a tender, happy light, and Norman, humble for the first time before her, feeling the spell of her new womanliness, caught her in his arms, and her sentence was finished so close to his ear that only he heard it.

"I don't deserve you," he muttered brokenly, after the manner of men from time immemorial, when the wonder of love has transfigured the *one woman*; and after the manner of women, ages without end, Frances denied his unworthiness, continuing: "It has been a long road to happiness, but we'll forget the troubles on the way, now that we've reached our journey's end!" [THE END]

Motherly Advice

A NEW YORK woman of great beauty called one day upon a friend, bringing with her her eleven-year-old daughter, who gives promise of becoming as great a beauty as her mother.

It chanced that the callers were shown into a room where the friend had been receiving a milliner, and there were several beautiful hats lying about. During the conversation the little girl amused herself by examining the milliner's creations. Of the number that she tried on, she seemed particularly pleased with a large black affair which set off her light hair charmingly. Turning to her mother, the little girl said:

"I look just like you now, Mother, don't I?"

"Sh!" cautioned the mother, with up-lifted finger. "Don't be vain, dear."—Lippincott's.

Uncle Ike's Conclusion

By John Brown Jewett

I'M A-GETTIN' scientific,
But I stay religious, too,
For science and religion, now,
Are takin' the same view.

Yes, everything that's now alive,
Fish, bird, and beast, and man,
I see became just what it is
By follerin' one plan.

At first, in the primordial time,
When earth was mostly sea,
And in it big and little clams
Were life's variety.

The clam that always crawled the most
Upon the ocean-bed,
He got to be a turtle first,
With four legs and a head.

The turtle, next, that left the sea,
And walked the most on land,
Developed legs that he could use
For more things than to stand,

And usin' more and more his legs.
His body changed, of course,
Till he became the higher types,
The dog, the deer, the horse.

One turtle used his front feet most,
Till they turned into hands;
That's how the monkeys got their start
In all the tropic lands.

And as the hands were near the head,
I think it is quite plain
That usin' them in many ways
Would make a larger brain.

And so the ape with largest brain
Kept follerin' up the plan
O' tryin' to be more and more,
Till he became a man.

But wait—you're not the climax; no,
Creation isn't done.
In growin' from a monkey, why,
You haven't half begun.

You've only learned one useful fact—
That what you mostly do
Will make and shape whatever thing
You next will grow into.

Here science and religion
Together jine at last,
For that is what religious men
Have taught through all the past.

Now science *proves* religion.
Both tell us: "Thoughts are things.
Just have an angel's ideas,
And they will grow you wings."

An Admonition

B E NOBLE! and the nobleness which lies
In other men, sleeping but never dead,
Will rise in majesty to meet thine own;
Then wilt thou see it gleam in many eyes,
Then wilt pure light around thy path be shed,
And thou wilt never more be sad and lone.
—Lowell.

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This is positively the last time that our readers will have a chance to obtain one of our handsome Flower Collections. At the expiration of this offer, no more Flower Collections will be sent out. We want every subscriber to have one of these beautiful Collections, and are giving you this last chance to order, before the offers are withdrawn for good. Our Flower Collections this year are the most handsome and satisfactory ever offered to our readers.

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3. Nephrolepis Whitmani
4. Sprenger

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4. Harlowarden
5. Lady Bountiful

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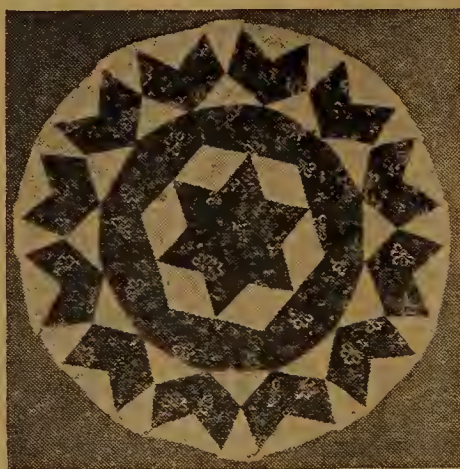
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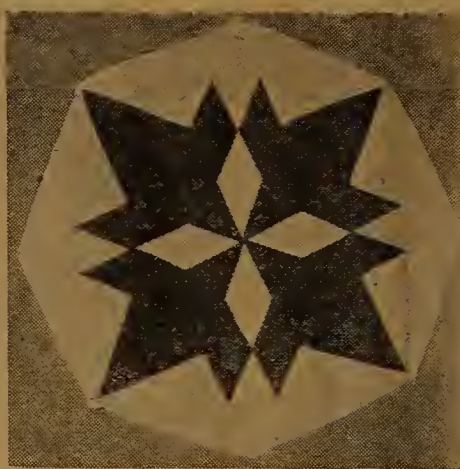
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Quilt Patterns For Busy Fingers

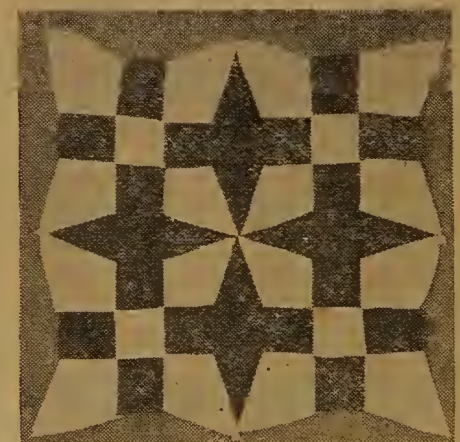
EDITOR'S NOTE—So many of our subscribers have written to us, asking for quilt-block patterns, that we have decided to furnish them. Tissue-paper patterns and directions for making these quilt-blocks will be forwarded to anyone on receipt of ten cents in coin or stamps. In sending money be careful to wrap the coin in paper. Address, Quilt-Block Department, care FARM AND FIRESIDE, Springfield, Ohio.



A circular patch, useful for small pieces



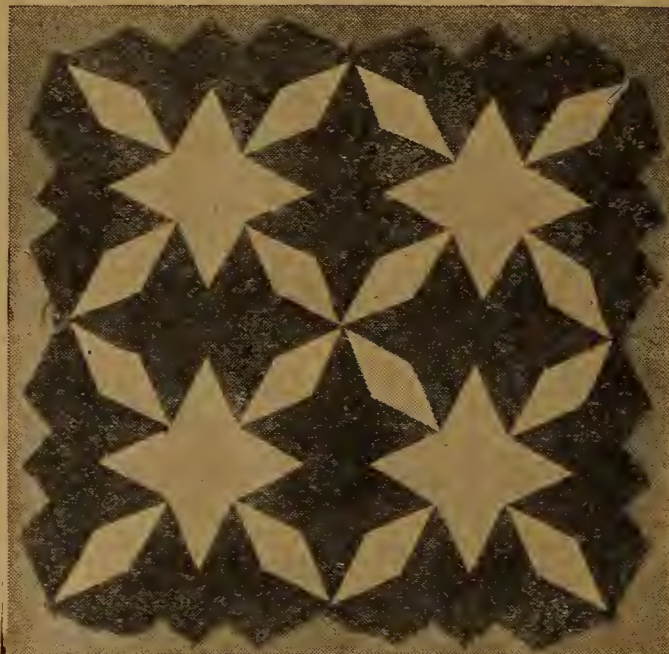
A star which is simple, yet effective



A really, truly old-fashioned block



The "Indian Hammer" of our grandmothers



Four blocks which form a large block to be used for a sofa-pillow



Small patches of two contrasting colors



Large and small pieces make this block

A Letter

By Arthur W. Peach

"JUST common paper simply written o'er
With twining lines—just this and nothing more?"
Ah! no—that sheet of paper long ago
Waved in bright fields o'er which the south winds blow.
Here are these curious lines, with crinkles, curls,
Straight ups and downs, quaint flourishes and whirls,
In darkness traced against the virgin white;
To one unversed an odd, unmeaning sight.
"A common letter"—yet they move the world;
Within its lines a power may be furled
With force to hurl a monarch from his throne,
Or make a strong heart die, forlorn, alone,
To wake the wrath of mankind into flame,
To lull great anger into soft acclaim,
To heal the hurt some bitter sorrow made,
To burn in souls bright truths that never fade!
But this brief letter—nothing there you say
To stir a poet's fancy into play.
Wrong once again; therein a Something lies
That lures the lark to singing in the skies
And makes the earth seem near to heaven above;
'Tis written out in just two words—"With love"!



Sunday Reading



The Children's Rightful Inheritance

By Hilda Richmond

ALL the teachings in the world on any subject fall short of the mark unless founded upon true standards, and no home can send out well-trained young men and women without grounding them in the ethical and religious reasons for the training. To teach that honesty is the best policy, and the man who is honest will keep out of jail, may be the idea of some men and women, but it is far beneath the Golden Rule proposition to treat the neighbor well because you yourself wish to be well treated. There will be enough temptations to the young people to make them waver from right paths in the busy world, without giving them a low set of morals with which to test the temptations when they come. Many fathers and mothers know no other form of government than to threaten their children with the whip or the policeman from infancy, thus giving the boys and girls the idea that as long as they can conceal their guilt they are all right, and the sin lies in being found out.

It doesn't take a penny nor waste a bit of time to impress upon youthful minds the ideas of government, religion and right conduct, aside from the religious training that belongs distinctively in the education of children. That, of course, should never be delegated to the Sunday-school or church, but should be the direct work of the fathers and mothers; but outside of that realm lies the general ethical teaching so often neglected. In speaking to a crowd of bright school-boys, not one of them could give a reason for voting, other than all people voted, and it was somehow the thing to do. The same boys had the idea that it was a sort of lazy man's job to hold a public office, and that all men in public office were there to cheat the people whom they were supposed to serve. Now that was the direct result of wrong home teaching. To tell the boys that all men in public life are rascals and thieves is, in the first place, to lie, and in the second to poison their minds forever. All the talk about "dirty politics" does no good in the home, unless the head of the family is fighting with might and main for clean politics, and recognizing the fact that other men are doing likewise.

Duty to one's neighbor can be easily taught in the matter of helping, keep the public peace, beautify the neighborhood, take an interest in school and the dozen and one things rural residents ought to be concerned with. The weeds on your back road may not trouble you a bit, from a personal standpoint, but, because the seed may spoil your neighbor's meadow, it is your duty to get them out of the way as speedily as possible. Your children may have reached the age when they are attending the nearest high school, but for the sake of the children still in the country school it is your business to be concerned enough to help get a good teacher and keep up the school grounds. The home atmosphere is everything, and where children daily imbibe the idea that the neighbors have sacred rights, not founded on written law so much as on the unwritten idea of peace and good-will to all mankind, the ethical side of their training will be apparent all their lives.

Many people are of the opinion that such teaching will make the young people "soft" and unable to stand up for their rights, but entirely the opposite is true, as has been shown time and again. In the great moral battles that have been waged in this country, the men noted for their gentleness of heart and consideration for others have been in the front rank of warriors, not fighting men, but fighting sin and iniquity. The man who is always fighting for personal rights and going about with a chip on his shoulder, is the one who makes little progress in life. Don't be afraid to teach the young people gentleness and kindness and consideration for others, for in so doing you will arm them for life with the armor no weapon can penetrate and give them an inheritance that will make them rich no matter where they are placed.

A Helpful Thought

NO MAN or woman of the humblest sort can really be strong, gentle, pure, loving and good without the whole world being better for it, without somebody being helped and comforted by the very existence of that goodness.—Phillips Brooks.

My fault is past. But oh, what form of pray'r
Can serve my turn? —Shakespeare.

The Helping Hands

By Richard Maxwell Winans



WAIT a minute, mister! Don't hit 'im! He can't help it." I had just come upon a crowd gathered at the curb near where lay one of a team of truck-horses, helpless on the ice-coated pavement. Beside the prostrate horse stood the driver and his helper. In his hand he held a vicious-looking whip. Failing to get the horse upon his feet by jerking on his bridle-rein and brutal kicks upon his side, he had raised the heavy whip to cut an ugly welt across his back in a cowardly effort to make him renew his fruitless struggle to rise, when a piping voice close by called out in merciful appeal.

"Hold up on that, an' I'll fix him in a jiffy!" and the small, ill-clad missionary of mercy scudded off along the sidewalk. There was the timbre of serious earnestness in the voice. The man stood gaping at the receding figure, and the hand was stayed. Whether because of the tone of command or the note of human appeal, is not material. The object had been accomplished. The fallen horse turned his head and looked after the running lad; it almost seemed that he had understood, and was grateful.

I watched the lad as he hurried along, dodging here and there into areaways and looking beside protruding steps. For a moment his mission was not clear to me; I failed to understand how the Good Samaritan expected to keep his promise. Presently, however, he came into view from behind some high steps rapidly rolling along a great ash-can. Then the crowd, too, understood, and a general murmur of approval followed. The willing hands of those who had caught the spirit of the boy's humane work soon brought the can to the scene, and the gritty ashes and coarse cinders were quickly scattered about the fallen horse and, its mate, and for a distance before them.

When it was done, the young street gamin who had played the leading rôle, went close to the big bay and patted him encouragingly about the neck. In response the animal raised his head and rubbed his frost-covered muzzle against the boy's breast in thankful fashion. The boy's caress was infinitely more to his liking than the blow of the driver's fist against his ear, or the cruel impact of his heavy shoe upon his ribs. That much he knew as well as a horse can know anything. Because of this he was willing to accept the rest on faith. It was his best mute way of evidencing his confidence in the lad's ability to help him in his distress.

"It's all right, old fellow! You kin git up now," and the lad's hand lightly lay on the bridle-bit, barely a suggestive invitation to obey. Again the great brown eyes of the big bay turned toward his little friend, and, much as though he understood, he threw up his head, put out his front legs and struggled quickly to his feet, nodding his head. Again his nose was brushing in dumb caress against the shoulder of the lad, who now stroked his broad, smooth face in affectionate return. As the shamefaced driver mounted his seat and tightened the lines, the lad stepped aside with a farewell pat on the outstretched neck of his lately befriended admirer.

"I say, mister!" he called, as the driver jerked his lines and raised his whip; "jist take it fr'm me, an' use a little hoss sense. 'f yuh got any, an' go easy wit dat team, an' dey'll git y' dere quicker, every time. Yuh wouldn't want tuh be beat up f'r not doin' sumpin' yuh jist couldn't do, no more'n them hosses."

The crowd gave a suppressed cheer, the driver laid aside his whip, probably in deference to public opinion, drew the reins taut, spoke quietly to his team, which, taking advantage of the foothold afforded by the ashes, moved off.

"Come here a moment, little boy!"

There was a motherly note in the quiet voice of the elegantly dressed old lady standing beside me at the curb, a keen observer of all that had passed. The little chap approached, head erect, but deferentially withal, and as he stopped before her he did an unusual and a notable thing for an urchin of the streets of Gotham: he had further won my heart by lifting his battered cap from off his tousled head before addressing her. Evidently there was the makings of a manly man within that unlovely ensemble of tattered garments. He had at least revealed the unmistakable insignia that distinguishes the gentleman anywhere by his courteous deference to age and womankind; even though his body were covered with remnants of clothes that easily might have been his heritage from a ragman.

"Where is your home, little boy?" and a small gloved hand rested encouragingly upon the lad's shoulder, while the sweet-faced old lady looked with kindly inquiry into the frank gray eyes.

"Well, lady, you see I ain't got what you'd call a reg'lar home." There was an air of apology in the lad's reply.

"No home! That's too bad. Where are your parents?" and a deeper touch of solicitous interest crept into her voice.

"I ain't got none, jist now. I reckon I had, once; but I've lost 'em; 'r they've lost me, one way or th' other—it bein' th' same

now, whichever way it was. Y' see, I ain't got nobody but jist myself now, ma'am; an' I ain't much, I reckon," and the little fellow's eyes dropped in conscious acknowledgment of his pitiable position.

"As to the last, my boy, you and I may differ radically," and there was the touch of a woman's heart in her earnest voice. "As to the rest, it is no disgrace to be an orphan. Tell me, where do you

work, what do you do for a living?"

"Beggin' your pardon, but I don't git much o' that, ma'am, if yuh mean eatin' an' them things. I mostly does errands an' sells papers, an' that, an' I sleeps at the Newsies' Home—when I got th' price," and he smiled demurely at the pitiful admission.

"Do you want a home, my boy?" The question had the true ring of purpose.

"Did that poor hoss want help?" For once he forgot himself in his eagerness.

"Good, my lad; I understand," she replied quickly, to cover his apparent embarrassment for having answered her question by asking one; "and just as that horse needed such a helping hand as yours, do you need help. What I jist saw you do gives me faith in the quality of your character. You have manifested the evidence of promising possibilities; too great to go to waste in the blighting smother of undirected life in the city. Come with me, my boy." She spoke with the air of finality. "I am going to give you the same chance you gave that horse—a chance to get up and show what you can do and be."

And they were gone. The passing incident of the street was closed. But always I vowed to remember those two helping hands I had seen thrust out with the ennobling quality of mercy over the grinding maelstrom of a great, unfeeling city.

The Feathered Seed

By Caroline Stern

THE little feathered seed is blown
Now here, now there, by any wind,
And yet, by chance to purpose sown,
Grows to a monarch of its kind.

The feathered seed may lightly drift,
May trust the breezes' shifting will,
May die perchance in stony rift,
Perchance its destiny fulfil.

Not thus, our Captain, would we go!
With steady purpose, strength of soul,
Like men who tread a path they know,
Thy steps we'd follow to the goal.

Why Some Boys Have Left the Farm

By S. E. Bird

PERHAPS there is no spot in all God's beautiful world where there is more love shown to little children than on the old farm. Then why is it that our boys leave the old place with a feeling of resentment, a feeling that they have not received a square deal?

Many a person has been touched with the love that is shown to the little bare-foot lad on the farm, many an eye has been moistened at the sight of the strong-armed farmer stopping on his way from the hay-field to pick up his small son and place him on the back of the old gray mare. But it is hard to make this same father realize that when the boy reaches twenty-one he is a man. He no longer needs the father's help to mount the old gray mare; he has no longer a helpless little body. And if the father expects this man who was once his little boy, to stay on the old farm, he must hire him; he must pay him, and he must treat him like a man.

Just the other day I met a stalwart young fellow whose every appearance would indicate he was a "son of the soil." Six years ago he left the old home. At that time he had very little education, but by steady, industrious labor he has "won out," and to-day is a promising young lawyer. He told me that the first year he left the farm he obtained employment in a machine-shop at what seemed to his mind a large sum of money, \$12 per week. He worked hard for nearly three months, when one day he received a telegram from his father, asking him to return at once. Having left a delicate little mother, he rushed home with all haste, fearing to find some great trouble at the end of his journey. His father met him at the station and calmly explained that his hired man had left and he could not get his hay in alone. My young hero, not daunted in the least, pointed out to his father that he had given up his position to return home and asked what pay he was to receive for his work. The father promised a certain small sum. After two months' hard work the son asked for money to buy a suit of clothes, which was given to him. At the end of the season, when the young man wanted a final settlement; he was put off from time to time and at last went away to the city with an empty pocket and a heartfelt of resentment.

"I'll tell you," said a stern-faced man of perhaps fifty years, whose young life had been spent on the farm; "I will tell you why the boys leave the farm! I was only a lad of ten years when I decided to leave the farm. I remember so well one cold, crisp morning my father coming to me and giving me a basket with something soft and warm and alive in it. He said to me in rather a disgusted tone as he handed me the basket, 'Tom, if you raise this little pig you can have it; perhaps you can get some money out of it.' At this time I was only ten years old, but there was not an animal on the place that I cared for except the horses, but when the idea got into my childish head that I was to sell it and have the money to use for myself, I almost forgot it was a little pig that I must nurse and mother and care for.

"This was early fall, and I think it is safe to say from fall until the following spring, when my pig was sold, I had spent the money perhaps a hundred times. In my childish fancies I bought all the toys that I used to love to watch in the shop-windows when I went in town with my father, then again I would spend it in fine dresses for my mother.

"But lo, when my pig was sold, down fell my childish castles! My father sold my pig, paid off a note he had in the bank and came to me with the doleful consolation that he would give it all back again. From that time on there was always and ever that one thought in my mind that I should leave the farm when I was twenty-one—and I did," said my old friend as he closed his office desk with a bang.

I know a bright, active farm lad of sixteen who won first honors in the high school, also a scholarship in one of our leading colleges. This boy had worked hard each morning and night before walking four miles to his school. He had worked very hard during his vacation each year on the farm, and then when he was about to enter college he asked his father for money to pay for his board and was refused it. The boy was not discouraged, but went to work on the railroad, earned and saved enough money to put

[CONCLUDED ON PAGE 39]



OUR YOUNG FOLKS' DEPARTMENT

Conducted by Cousin Sally



Cousin Sally's Letter



DEAR COUSINS—

This is a good time to begin thinking of the summertime and to be making plans. If you wait until the warm spring days come, you may lose your chance to work and to study, for with spring come all sorts of wishes for other things than work. Isn't it so? You want to go a-fishing, to hunt wild flowers, to sit on some smooth overhanging rock and dangle bare feet in a brook. Springtime calls us out of doors, and out of doors means play, even if we work. For real work means houses and rooms and sitting down and bending over. Of course, we have cousins in the South and cousins in California who have no wintertime, at all. But such a great number of us have cold, dreary months in which to live indoors that we find the planning for spring next best to spring itself.

To begin with, I want you all to plan for some branch clubs. I am hoping there will be Cousin Sally Tomato Clubs, Cousin Sally Poultry Clubs, or any other kind of club which you would like best. Then write to me for plans to start it.

It seems to me that my dear cousins who have the joy of living on farms should learn the joy of making things grow. To do this well, I intend giving, very shortly, some plans and ideas on our page. Keep on the lookout for them!

On this page you will find a letter written by a farm boy. It is the kind of letter I enjoy reading. Furthermore, I want to interest our boys and girls in their life on the farm and all its beautiful chances for living nobly and well. Such boys as the one who wrote this letter will never find anything but joy and happiness on the farm. There are so many things that girls can try, too. Tell me, girls, whenever you do anything that will help other girls to do things worth while. Tell me how you raise flowers, poultry, tomatoes, cucumbers! Tell me how you sew and bake and churn! Then let me pass it on to the other boys and girls.

I want bushels of letters!

Affectionately yours, COUSIN SALLY.

Some New Puzzles

By Isolene Knox Mills

IN EACH of the following sentences you will find the hidden name of a capital of the United States. Can you find them?

1. A solemn religious observance and a vowel.
2. The discoverer of America.
3. The name of a famous singer.
4. A martyred president.
5. One of the summer months and a vowel.
6. A short staff and a red cosmetic.
7. Insane, a personal pronoun and a relative.
8. A season of the year and an open space of land.
9. One of the first presidents and a large town.
10. A king of England that was beheaded and two thousand pounds.
11. Of unusual height, an exclamation and to perceive.
12. A chivalrous English knight.
13. One of the aggressive presidents.
14. A boy's name and a place of defense.
15. The cause of Troy's downfall and a vowel.
16. A great German statesman.
17. A small stone.
18. A male deer and to wade through.
19. One of the early saints.
20. A slang term sometimes applied to an employer and two thousand pounds.
21. Chloride of sodium, an enclosed body of water and a large town.
22. Act of selling and a consonant.
23. A word meaning peace.
24. A fabled bird that rises from its own ashes.
25. A name sometimes applied to the Omnipotent One.
26. An aboriginal inhabitant, a fruit and a form of the verb "to be."

And in the following sentences are hidden the names of twenty-six authors and poets. Find them if you can. If you can't, Cousin Sally will publish them in a forthcoming issue.

1. His cottage is situated on the hill.
2. Was John Brown in good company?
3. Did the angry child slam both doors?
4. "How hard your heart is," cried the actor.
5. The man in the scow persevered until he reached the shore.
6. The river is too low, Ella, for navigation.

7. Wilbur, Nettie, John and Alice came to see me.

8. The candy will burn speedily if you do not remove it from the fire.

9. Jessica, I never did the work you asked me to do.

10. I just owe thirty cents.

11. "He who will not work, eats none," was the Jamestown motto.

12. "Irvin grows very rapidly," said his mother.

13. The waters of the river Po penetrate the lowlands.

14. Mr. Schabb is on a bed of sickness.

15. They made our Dick ensign in the army.

16. As I was leaving, old Smith stopped me and asked for money.

17. "I must hug old Rover," cried the child.

18. W. J. Bryan talks very eloquently.

19. "Rob, a condor has been captured in South America and sent to our museum," said the father.

20. Are Adelia's children with their grandmother?

21. The DeVal cottage is located at the corner of Chestnut and Fourth Streets.

22. "If you'll allow me to go to church, I'll be good," said the child.

23. How ardent are the sun's rays.

24. He threw over the wall a cent, a dime and a dollar.

25. John's only fault is his vanity.

26. Ella, Elmer, Edith and George left on the noon train for college.

What One Boy Saw at the Fair

DEAR GIRLS AND BOYS—

I had some very fine times at the New York State Fair as a member of The Farm Boys' Company. At three o'clock Monday afternoon I reported at the headquarters in the Grange building, and was immediately assigned to work at the camp, where I found several boys at work fixing up things. We all pitched in and helped. That night we assembled around a camp-fire and listened to several speeches. The most interesting one was about Lincoln, given by Father Lane. The next morning our regular routine began. We were awakened in the morning by reveille, for we had a bugler in camp. We all had our breakfasts and suppers at a restaurant, but were furnished with dinner tickets that were good at any place on the grounds. Every morning we went to the Grange building to hear speeches. Special lectures on agriculture were given every morning and afternoon in a special room. When we were not on duty, we would walk about the grounds examining the different displays, and look at the horses, cattle and swine. Our half-day's work consisted of waiting on the officers, guarding camp and doing other kinds of light work.

Every evening we had some kind of entertainment. Tuesday we all went down to the city and took part in the carnival parade. Wednesday night we gave an entertainment. Everyone was called upon to help out. Such a good time as we had! Thursday the leaders of the camp got up a minstrel show as a surprise for us. It was simply splendid! On Friday night we gathered together for the last time and listened to words of advice from the camp leaders, who were all Y. M. C. A. men from different parts of the State. Everything about the grounds was magnificent and well planned. Such wonderful displays of machinery and labor-saving devices as there were! These were most interesting to me. One machine which attracted my attention was a powerful gasoline machine. It could be used to plow, roll or drag.

The educational feature was the big thing of the fair for us boys. We had daily lectures, besides the knowledge we obtained from the displays on the ground. Governor Dix addressed us privately in the Grange and then shook hands with us. We also heard President Taft speak.

Sincerely yours,

J. HAROLD SMITH,
Waterport, New York.

Prize-Winners in Our New Year's Resolution Contest

GIRLS: Edith Manney, age 10, Maiden, North Carolina; Marguerite Fox, age 11, Lincoln, Nebraska; Letitia Whetsel, Center Point, Indiana; Zoe Lay, age 11, Newville, Pennsylvania; Leta Hancock, age 15, Little Genesee, New York.

Boys: Richard R. Chavers, Century, Florida; John Dorsey Slaught, Denton, Maryland; Glenn Humphrey, Moweaqua, Illinois; Earl Ahalt, Middletown, Maryland; Alvin L. Claybaugh, Everett, Washington.

A Berry Pie

By Harriet Whitney Durbin

IF ONLY there was a premium offered the family losing the greatest number of things in the shortest space of time, the Berries would take it, sure," fumed Annette, eldest daughter of the house of Berry, as she pranced from dresser to chiffonier, pulling forth drawers, digging into boxes and causing a brisk commotion among the piles of collars, bows, ribbons and laces.

"Look out," warned Barby, variously styled Bar Berry, Straw Berry, Rasp Berry and Goose Berry by her comrades, "you're 'jungling' up the frippery-fraps at a terrible rate. What's the to-do?"

"My hair-ribbon—my beautiful new olive-green dollar-and-a-quarter hair-tie has vanished—clean and complete. Oh, where can it be?" Annette, holding with one hand her shining, freshly done braid, just ready for its silken adorning, hopped an impatient hornpipe back and forth.

"And where did you leave it?" queried Barby, as she sped about whisking up the disturbed gew-gaws.

"Why, right on the table, I think; I'm positive I didn't put it out of the way, but if an earthquake had swallowed it, it couldn't have vanished more completely."

"Just the way my patchwork went," tinkled Daffy, the small sewing sister of the family. "I had all my best blocks, nine-patches and magic chains and that delicious lone-star that gran'ma taught me, all piled on the table ready to begin setting them together, and when I got through playing 'peep' with the wash-lady's baby, there wasn't as much as a three-cornered notch to be seen high or low. Bab Berry, I lay it to you."

"I did clear off the table," admitted Barby, "but not till it yelled to be relieved of the stuff you two had piled upon it; why, honestly, girls, there wasn't room to have lodged a grasshopper, with your fripperies and all the odds and ends, and I heard Jean's foot upon the stair—Jean, who never misplaces a hair-pin and isn't used to disorder—so I made a hasty clearing."

"Well, that accounts for it," Annette spoke in a voice of hollow despair, sinking upon a chair with a wearily resigned expression, and still holding fast to her braid. "You do have such a maddening way of making clearings, Bar Berry, by landing everything in a heap somewhere. No doubt they're in some closet—"

"No," Barby shook her curly red locks; a misty, puzzled look was in her eyes. "I didn't carry them away, I know; I put them somewhere close at hand, but just where—"

"Think—think back hard," implored Annette. "I want that ribbon awfully. Where did you stand?"

"Right here," indicated Barby, taking a statuesque pose at a corner of the table. "And I couldn't have gone away far, for I know when Jean came in I was thinking how smart I was to have the table clear in such a jiffy—it looked almost neat, for a Berry table."

"A whited sepulcher look," opined Annette, gloomily. "The things are all in a bunch somewhere, but where? Do think."

"I am thinking," Barby frowningly pursued a misty backward trail. "I know you and Daffy went into such a gale when you heard Jean coming, and then the three of you chattered so like magpies you distracted me. My first recollection after that is that Jean said she couldn't stay, she'd only come to borrow the chafing-dish—I do wonder—"

"Girls," called a motherly voice from the hall below, "come down a moment. Jean has brought back the pie."

"Pie!" echoed Annette.

"Pie!" sung Daffy.

"Pie!" whooped Barby. "What pie—whose pie—where—"

"Come and see." There was a smile down in the voice. Annette's bowless braid whisked, Barby's curly locks "jiggled" and Daffy's short flaxen tresses fluffed out backward, as the respective owners dived and bounded and ambled down the long stairs and into the living-room, where mother and Jean Garvin seemed to be having a mirthful time. Upon the sewing-table stood the chafing-dish, uncovered, brimful of something resembling a dry-goods pie. Handkerchief corners stuck up like rabbit ears; collars reached out forlornly for help; laces and ribbons made a tangle of brilliant foam.

"There are spools in the bottom," Jean informed them, assuming a serious expression, "and buttons, and gloves, and a stocking, and a darning, and a few burned matches, and some dress braid, and a

locket, and two knit wash-cloths, and an apple, and three pieces of fudge, and a cake of soap—"

"And my hair-ribbon," shrieked Annette, swooping upon an end of olive-green silk.

"And my patchwork," clamored Daffy, clawing out blocks with both hands. "And that's the way you cleared the table so beautifully, B. Berry; you crammed the whole mess into the chafing-dish and covered it up!"

"That's what I did," owned Barby, who was now something of a strawberry, as to color. "It comes back but too plainly. I recall thinking what a blessing it was that the old dish was so commodious; but once the lid was on, the thing was off my mind, and even Jean's walking away with the whole business didn't give my befogged reason a jog."

"Barby doesn't like disorder," Mother Berry explained, with excusing charity, "and is a little given over to too sudden clearances, and her mind doesn't always quite keep up with her fingers."

"It's a quick way out," laughed Jean, "to make one big pie of the whole collection."

"Well," promised Barby, "I'll never make any more Berry pies, of that variety."

The Cousin Sally's Club

DON'T you want to look over a few of the letters that the postman just brought me? I wish we had time to read every one of them, but I'm afraid we haven't. The very top one comes from a boy in Wisconsin. Let's see what Dick has to say:

DEAR COUSIN SALLY—

When I sent for my button, I could hardly wait until it came. Every day, as cold as it was (the thermometer was way below zero), I'd go trotting off to the post-office to see if there was a letter from you. My! wasn't I glad when the postmaster handed me an envelope with your name at the top? I'm mighty glad I am a member, and I'll be a good one. The motto is bully! Every cousin should know it.

There! Is it any wonder that Cousin Sally is glad she is at the head of this splendid organization?

Now draw up your chairs a little closer while I read part of this letter from one of our very young cousins. You see, she's only eight:

DEAREST COUSIN SALLY—

My button came this morning, and so I wore it to school. Teacher saw it and asked me where I got it. I told her about our club and about you, our president, and she told all the scholars. Now every girl is sending for a button. I like the club fine.

Why not tell your teacher about the club, and your school friends, too?

Gracious! my space is about used up. So I won't be able to tuck in one more letter. Never mind, I'll hold them until next time.

Hurry up now and join to-day. I'm just waiting to welcome you into our ranks of ambitious boys and girls.

Enclose five cents and address Cousin Sally's Club, FARM AND FIRESIDE, Springfield, Ohio.

Some Riddles

Contributed by Cousins

THERE is a little house and a mouse couldn't fit in it, and all the men in town couldn't count the windows in it. What is it? Answer: A thimble.

NATALIE M. PURCELL.

A duck before two ducks, a duck behind two ducks, and a duck between two ducks. How many ducks were there?

Answer: Three in a line.

VIVIAN LEVAN.

What is the difference between form and ceremony? You sit upon one and stand on the other.

What is the most awkward time for a train to start? Twelve-fifty, as it's ten to one if you catch it.

Why is a camel a very pugnacious animal? Because he always has his back up.

Why can the world be compared to music? Because it is so full of sharps and flats.

When was paper money first mentioned in the Bible? When the dove brought the green back to Noah.

Which is the easier profession, a doctor's or a clergyman's? A clergyman's; he preaches, the doctor practises.

When does water resemble a cat? When it makes a spring.

SAM LOYD.

Why is a coward like a leaky barrel?

Answer: Because they both run.

GERTRUDE E. BOGAAS.

The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of \$2.00 for the two best descriptions (with rough sketch) of original, home-made household conveniences or labor-saving devices, and \$1.00 for the third best or any that can be used. We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. All copy must be in by the thirtieth of March, and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copies, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

Unique Couch-Cover

I often wondered what I could make out of the old clothes that the men in our family cast aside. Finally I made a couch-cover that resembles a Navajo blanket. The pieces of cloth should first be washed and pressed (some may have to be dyed), and then cut after the pattern, and sewed together on the sewing-machine. Then seams are pressed apart, and the cover is ready for the lining. This should be of soft material. The quilting is done in a frame and through the



machine stitching only. After the couch-cover is finished, it should be taken to a tailor for a last pressing.

MRS. C. R., California.

Seeding Raisins

Raisins can be seeded much easier by pouring boiling water over them and letting stand a few minutes before seeding.

MRS. R. B., Tennessee.

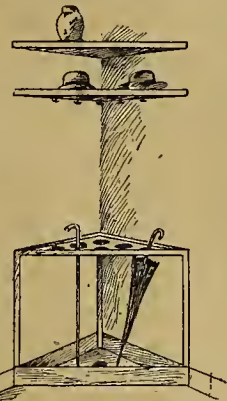
Easily Threaded Needles

Very few seem to know of the calyx-eyed needles which are threaded from the top of the eye by simply pressing the thread down into a small groove. These needles appeal to anyone who sews, because, no matter how good the eyesight, much time is saved by these easily threaded needles.

R. S. M., South Dakota.

Simple Umbrella-Rack

The average hall hat-rack is an unsightly affair and built so that its ungainly proportions are almost always tottering to a fall. Nowadays many people substitute contrivances that may be tucked into some inconspicuous corner, like the one in the sketch, which may be left open as shown, or have a curtain of denim, madras or any suitable drapery hung from the upper shelf. The shelves are fitted into the corner, stained and varnished. The upper one is reserved for vases or ornaments, and the middle one is set aside for hats. Hooks are screwed into the under side of the lower shelf, and on these coats may be hung. The umbrella-stand consists of two shelves, the upper one being perforated with holes large enough to allow wet umbrellas to be thrust through, and the lower one consisting of a triangular sheet of zinc with a hole in the center. The zinc is set into a triangular framework of narrow boards to which are affixed three uprights for the support of the upper part of umbrella-stand, which is made to fit into the corner and not project farther than the overhanging shelves. The rack is stained and varnished, excepting the zinc, and a pan is set on the floor underneath the hole to catch the water that drains off the wet umbrellas.

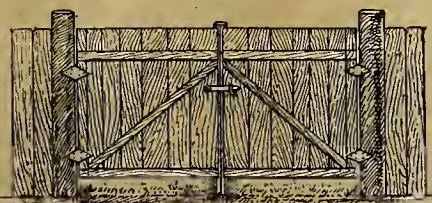


C. W., New Jersey.

Our Chicken-Protector

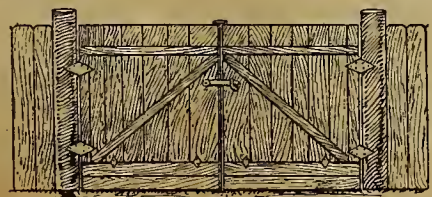
We were trying to raise chickens, and didn't want them to get out of the yard. After stopping up all the holes and cracks in the fence, the question arose: How would we keep them from going under the gate? The gate, to swing freely, has to be raised up from the ground, leaving space enough for the small chicks to crawl through. A plank placed across the opening would not do, as that would be in the way of buggies driving in and out. After careful thought, we hit upon the following plan, as illustrated, and find it very convenient and effective:

A board is placed on the bottom of the gate, and fastened by means of hinges. The



gate is easily opened, the board swinging along and raising itself over the rough places, and serving as a prop to keep the gate open. By simply turning the board back on its hinges, the gate is as easily closed.

F. D. D., Louisiana.



A Remedy for Steam Collecting on Glass Doors

For several winters we were annoyed by the plate glass in our door becoming steamed, the water trickling down, thereby spoiling the door, and freezing so firmly at the bottom of the door that it was almost impossible to open the door without danger of breaking the glass.

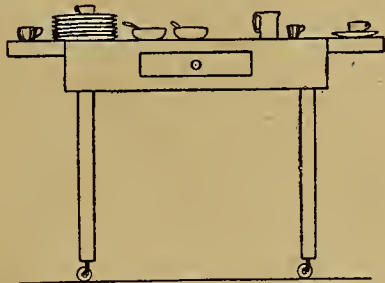
We got a piece of heavy tin, just the length of the glass and about four inches wide, inserting one side clear under the glass, letting the other side extend down about one-half inch and then bent to form a groove, slanting it slightly, so the water would run to one end, under which I hung, on a tack, a small receptacle (I used a cocoa-can) to catch the water.

By using extension rods and leaving a heading at bottom of curtain, the tin is not visible and can be left there, only removing the cup when not needed.

MRS. N. H. D., Ohio.

Handy Serving-Table

This serving-table is a great convenience and time-saver. Take an old kitchen table and put casters on it. Then at dinner-time you can roll the table up beside you and thus



have on hand all the necessary dishes and articles which are to be used for dessert. From the table you can serve the dessert, and upon the serving-table you can place all the dirty dishes. When you are ready to clear the table, place all the dishes on the serving-table, and roll it out to the sink in the kitchen. This saves many steps.

M. O., Wisconsin.

When the Oven Gets Too Hot

If you are troubled with your oven getting too hot in the bottom and scorching your bread and pies, go to your tinner and have him take a sheet of asbestos just a trifle smaller than the bottom of your oven and cover it with sheet tin just large enough to turn down a half-inch all around to form a binding. Use it with the tin side up. Such a mat cost me twenty cents, and I used it seven years. Of course, the cost varies in different places.

MRS. J. H. LONG, Illinois.



A City Quilt Pattern

The Housewife's Club.

School Lunches

To those who have school lunches to put up I send the following: Take two biscuits, crumb fine, pour over them enough warm, sweet milk to soften, and put in a good half-cup of sugar and the yellow of one egg beat well. Line a pie-tin with a good crust, pour in mixture, and bake. Now take the white, whip it to a foam, add one tablespoonful of sugar, and spread over top of custard. Put in oven, and brown, and you will have something that will delight the little folks.

M. T., Kentucky.

Kitchen Kinks

Take a piece of tape about a yard long, and attach it to your apron at one end, at the other attach a good-sized holder for lifting hot kettles and dishes, and note the convenience of never having to hunt for it.

Bake your pumpkin for pies, instead of stewing in the usual way. Cut in halves, and put center down in a pan, so the water will drip out. It will be drier and far nicer, with less work.

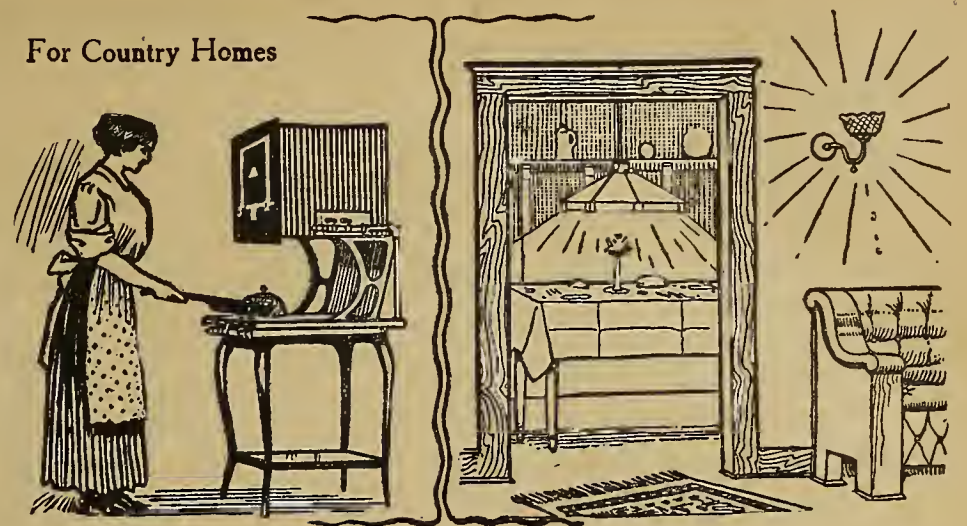
Let your beef-roast stand in vinegar from one quarter to half an hour, and it won't need to cook nearly so long.

When you bake cookies, turn your dripping-pan bottom side up to put them on. They will bake quicker and are not nearly so apt to burn on the bottom.

Have a slate with pencil attached hung by your kitchen table, and each evening when your work is done, devote a few minutes to writing on it the menu for next day's meals, and the work that has to be done. It will give you a comfortable feeling to know the day's work and meals are planned when you start in the morning, and nothing will be forgotten.

MRS. W. P., Pennsylvania.

For Country Homes



Cooking Fuel and Illuminating Gas Made at Home with a Little Machine Like This

ABOUT once a month this machine must be refilled with gas-producing stone and wound up like a clock.

When obediently it stands idle until you start to cook or turn on the lights.

Then, with no attention whatever, it gets busy and makes gas automatically—just enough to keep your stove and your lights going.

The stone, known commercially as "UNION CARBIDE," gives up its gas when the machine drops a few lumps into plain water—a little at a time as the gas is wanted.

The gas is genuine Acetylene. Burned in handsome chandeliers it gives a flood of brilliant pure white light.

Burned in the kitchen range, it makes a hot blue fire that can be instantly turned up or down, on or off.

For both cooking and lighting it is used exactly as city gas is used by over twenty million city people.

As a fuel, it flows right into your stove without handling and burns without soot or ashes.

As a light, its white, sunlike beauty is unrivaled. Reflected from handsome globes suspended from brass or bronze chandeliers, it supplies the up-to-date city-like appearance of refinement and elegance which the average country home lacks.

Moreover, it is not poisonous to breathe, and the flame is so stiff the wind can't blow it out.

The UNION CARBIDE you dump in the machine once a month won't burn and can't explode.

In a nutshell, one of these gas machines installed in the cellar or an out-building of a country home solves the

lighting and cooking problems for all time.

And they are so easy to install in any home without injuring walls or carpets that there are now over 180,000 Acetylene Gas Machines in actual use.

We manufacture and our agents arrange for installing thousands of them every month in all parts of the world.

There are, of course, many crude imitations of our machine on the market, but the genuine is easily distinguished by its name and our trademark

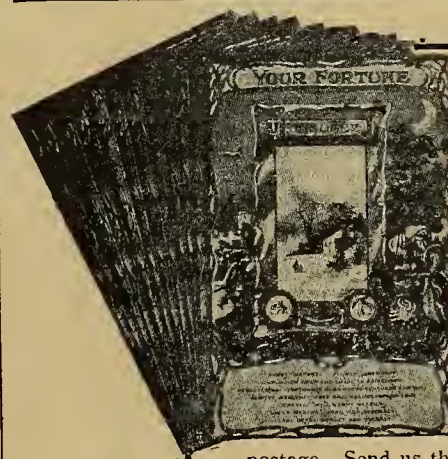
"Pilot" Acetylene Generators



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With these booklets telling all this wonder story, we will send figures showing how little a "PILOT" lighting and cooking equipment will cost in your case.

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The Minister's Flock of Hens

By Daniel H. Overton

THE minister's flock was a well-behaved flock—better behaved than some church flocks he had heard about. Possibly they were on their good behavior because they were the minister's, but they certainly caused little trouble and much pleasure and profit. They were not fancy stock like the famous "Peggy," or "Lady Washington," or "Black Empress," at \$10,000 to \$12,000 each. The minister could not afford to buy 1/100 part of one such hen, and anyone knows that it takes a whole hen to lay an egg. But he had just taken a village church after twenty years of ministry in the great metropolis, and he had the "hen fever," and hens of some kind he must have.

There was an old hen-house on the parsonage grounds almost ready to tumble down. The trustees of the church were persuaded to turn it around so that it would face the south, strengthen it and in part rebuild it, so that it made a comfortable and protected place for the prospective brood. Then the minister purchased from two people in the neighborhood twelve spring pullets, one spring rooster and one two-year-old hen, at seventy-five cents each. The rooster, because there was no hope of his ever making a good layman, soon entered the ministry. The hens were of pure strain, but of many breeds. There were four Rhode Island Reds, three Barred Plymouth Rocks, two White Wyandottes, three Black Minorcas and one Brown Leghorn, thirteen in all; an unlucky number to begin with.

Those hens were purchased November 29th, and December 1st the first one produced a cackle. And oh, the music of that first cackle! The minister had forgotten that there was so much music in the cackle of a hen. From his study he heard that cackle, and not having as yet trap-nests, he rushed forth to the roost to learn whether that hen was laying or lying. She proved to be a truthful hen and had really been laying and not lying; and there, sure enough, was the first egg from the minister's flock. If it would have kept, he would have preserved it for a relic, but he remembered from his boyhood experience that eggs are not good for relics, especially when they get broken, and so decided to keep it in memory only.

Well, the music of that cackle multiplied, or rather that musical cackle multiplied, until it became an old song, but it never lost its charm to the minister's ear during the whole year. A fellow minister had said: "Are you going to raise your own eggs? Don't do it. I tried it, and my eggs cost me twice as much as though I had bought them." With a confidence born, possibly, of inexperience, but more likely born of the experience of a boyhood spent on a farm, the minister thus replied: "You didn't know how to do it. My hens are going to pay." And they did. They seemed to realize that, like minister's children, more would be expected of them than of others, and they rose, or, more truly, sat, to the occasion and produced the goods. They cackled and cackled until somehow that cackle got the ear of the village, and

when their flocks would not lay, members of the minister's flock of people came to buy eggs of the minister's flock of hens.

Here is the record of those thirteen hens month by month for a year: Decem-

profit of at least \$10, and ten pullets of pure strain, worth at least \$1 each, \$10, and one fine Rhode Island Red rooster for breeding, worth \$2, making an added asset of \$22, which, added to the egg profit, makes a gross return of \$89.02 and a net return of \$48.47, besides paying for themselves \$9.75, a net total of \$58.22, a record that pleased the minister and beat many of the experts of the neighborhood.

Well, those hens quite added to the minister's experience and to his interest in living things. It was an interesting and intimate study of real life. It was a pleasant, helpful and profitable recreation. And last, but possibly not least, it was a fertile topic of conversation, that opened up one more channel of approach to some of the church flock who kept hens and had at least that much in common with the minister.

In comparing the relative merits of the different breeds, some other useful lessons were learned. The Brown Leghorns, as far as could be observed, laid the greatest number of eggs, estimated at two hundred during the year. Next to the Brown Leghorns, the

Rhode Island Reds made good as egg-producers and first-class all-around hens. They were good brooders as well as layers, energetic scratchers, gentle, peaceful, hearty and healthy. The chickens mature quickly. Pullets hatched out April 1st began to lay November 15th, and laid when eggs were the highest. The Barred Plymouth Rocks are also good, serviceable hens, but they took the longest vacation for molting, or after molting, of any in the flock, and the two White Wyandottes the shortest, laying all through November, and being idle but about three weeks for molting. But this laps over the year, which ended December 1st and is, therefore, a story for another year. Not a hen or a chicken was lost during the year, and the only diseases affecting any of the flock was leg weakness for a few days in one pullet, and scaly leg on three or four of the hens.

The different breeds dwelt together in peace. It was, of course, against all rules for success in poultry-raising to have more than one breed in one flock, but the minister was cosmopolitan, democratic and liberal, and he loved to see many breeds living together peacefully in one flock. He believes that the great art that we all need to learn is the divine art of living together. Then these many breeds in one flock had the added advantage

of making that hennery an experimental station for testing the merits of the different breeds. Each hen did her duty, and the minister's experimental flock was in all things a great success. It wasn't enough to tempt the minister to resign the pastorate of his church flock in order to devote himself exclusively to his chicken flock, but it proved that raising hens paid, and also that if a large flock would do as well as this small one there might be more money in it than in the ministry, and that it would pay better to have a large flock of hens than a small flock of people. But already the minister is philosophizing, and is reminded that he must confine his thoughts to hens just now.

in the whole year when no eggs were received, and those were all in November. The highest price for eggs during the year was in November and December, when they reached 55 cents per dozen in the local stores. The lowest price was in March, when they were 25 cents per dozen. The average price for the whole year was 38 cents per dozen. The return from eggs alone was, therefore, for 179 dozen, at 38 cents per dozen, \$67.02. The feed for the year, chiefly cracked corn and wheat, cost \$30.05; making a profit on eggs alone of \$36.97, or nearly \$3 per hen for the year, or subtracting the original cost of the 13 hens, at seventy-five cents each, \$9.75, a net gain on eggs of \$27.22, over \$2 each, besides paying for themselves; a good dividend surely on a small investment. The feed-bill may seem quite large. It did to the minister who had to pay it. But out of that feed two broods of chickens were fed, one of 9 Rhode Island Reds, hatched from 13 eggs, and one of 13 Brown Leghorns, hatched from 15 eggs, both of which settings were secured by changing eggs with friends. These were raised to get pullets for fall and winter layers, but behold, five of the first brood, hatched out April Fool's Day, were roosters, and still worse, 10 of the second brood were roosters. Three of the Rhode Island Red roosters were traded in September for pullets of the same breed, and all the other roosters, except one Red, from Sabbath to Sabbath entered the ministry, or, at least, the ministerial family. These twelve roosters eaten at market prices made an added



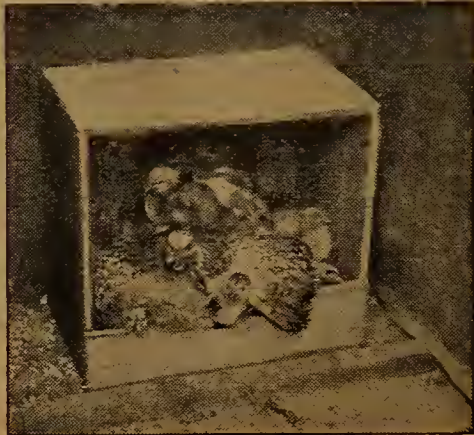
Energetic scratchers



The different breeds dwelt together in peace



A good dividend



Each hen did her duty



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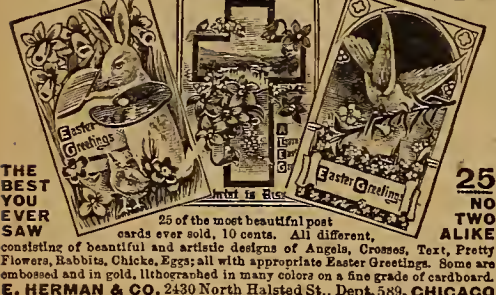
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THE Romance of the Soil, by Edgar L. Vincent—Listening on a still day in summer, when out among the trees, plants and flowers, if our hearts are in tune with nature, we may fancy that we hear voices which tell us of the strange things which are being done round about us. Hark!

"Don't you see what we are doing? We are growing, growing every day, not fast, and yet a little—and all for you! How do we do it? Why,

the earth gives us our start. She is so good to us! Locked in her bosom she holds just the things we need to make us grow. She clings to these tightly; and still not so tightly but that when the sunshine warms her kind heart and the dews and the rains come softly down to moisten it, she loosens her grasp upon them and lets them out for us. Quickly we seize them and turn them into stem and bud, flower and fruit. And so, you see, it is the earth that gives us life and strength and beauty."

"But how does the earth do all this?"

What if you ask this question? Will the trees and the plants and the flowers tell you? Ah! that is a longer story—a story you will love to hear, a story that will thrill your hearts and make you glad as long as you live that a kind hand has done so much for us all.

Listen to the story of the soil.

If you strike an iron bar deep down into the ground, it will not go so very far before it reaches solid rock. In some places your bar will need to be longer than in others to strike this rock; but everywhere, no matter where you go, you will find it, if you go deep enough. Just when this stony jacket was wrapped round the earth, or how it was done, nobody knows exactly, save that it is supposed that once the globe was a great ball of fire. Something happened to make it grow cold little by little; and as it cooled, it grew harder and harder, until at last the crust became rock. It is this which your bar strikes when you drive it into the heart of the earth.

After the covering of stone had been drawn about the earth, Nature began to do wonderful things with it. She sent great masses of ice down from the north to crush it and grind it to powder. Even now we may find in some parts of the world deep crevices in the solid rock where these chisels of ice cut their way along. She hurled storms and swift floods upon the stony covering earth had drawn about herself, tearing tons and tons of tiny particles from the rock. She chilled the rock with frost and tore it into fragments in that way. She pounded it with earthquakes and volcanoes from within, throwing up hills and mountains and making channels through which rivers rushed. The waters from these streams crushed millions of tons more from the rock and carried them away to be dropped in the hollow places in the earth's surface. She lashed the earth with winds which lifted clouds of dust and sand and whirled them far and near, grinding the particles still finer.

By and by she grew kinder and worked in gentler ways. Plants began to spring up in the ground-up rock. These grew old and dropped back upon the sand, making a rich mold. So for ages and ages Nature toiled on, and finally she had the earth so well fitted with soil that men and higher forms of plants and animals could live upon it. Not yet is the work done, but enough has been accomplished so that you and I can live here and enjoy this world so full of joy and beauty.

The little fragments torn from the rock, together with the softer mold which came from the simpler forms of plant life, make up the soil as we see it. It is into the bosom of this soil that we drop the seeds of the crops we wish to grow. It is this friendly soil that takes the little seeds we let fall, the kernel which seems so dead, or the bulb that looks so cold and lifeless, and pushes them up into the air and sunlight. It is the soil which ripens the plant and brings us the harvest, by the help of the air and the sunshine. It is the soil which gives us life itself and every good thing we have! And that is why we read about it and study it so carefully. Isn't it a wonderful thing to study?

THE Soil and Its Water, by Paul H. Brown—You all want to know something about the soil. All we have to eat and to drink and to wear comes from the soil. The more fertile the soil, the larger crops it will give; but there must be the right amount of water, or, as we say, moisture, in it. So, it seems to me we had best learn about soil moisture, and its way of doing things before we study the soil itself.

Now the soil is made up of very little pieces, so fine you cannot see the smallest ones without a microscope. These are little pieces of rock, ground fine and mixed with rotted plants. These tiny, tiny pieces do not fit together tightly, but lie like hard coal lies in the bin, with plenty of air spaces between the broken bits. Remember, there are very tiny air spaces between each bit of the soil and the other tiny bits which surround it.

When there is water in the soil, it fills these spaces. If each grain of soil has a little film of water around it, the soil is damp, but not muddy. That water in the tiny spaces between the bits of soil is called capillary water. Capillary water will not drain off, and the only way it can be taken out of the soil is by means of the living roots of the crops or by the sun's drying it up.

This capillary water works through the soil in the same way that oil works through a lamp-wick. As it burns at the top of the wick, more works up through the wick from the oil in the lamp. As the capillary water is taken up by the crop roots, more is drawn to the place where the roots are taking it away.

Capillary water works sideways through the soil, as well as upward. When there is more water than is needed to give every grain of soil a film of water around it, the soil is muddy and the extra water which makes it so is called gravitational water.

Crops cannot grow without capillary water, but gravitational water hurts them, for it keeps the air out almost entirely, and plant roots must have air. The gravitational water fills up the stock of capillary water when it rains, and usually it soon drains away. If it does not, some way must be found to get it out of the soil, if the soil is to yield a good crop. Gravitational water can be run out of a field through tile-drains, but capillary water cannot be taken out of the soil in this way. It clings to the grains of soil and will not run off. The finer the soil, the more capillary water it will hold, because you see there is a little film of water around each grain of soil, and the more tiny pieces there are with water films about them, the more capillary water there is in the field.

To make this plain, suppose you had forty acres in a field and only one fence around it, it would look like Fig. 1.

Fig. 1

Fig. 2. So, you see, I have more fences and more fencing in the forty acres now than I had at first; but I have no more land fenced in. Just so the water fences off each little grain of soil, and the finer the grains, the more water it requires.

The very small grains of which any good soil is made up, are pushed apart, when given too much water, and this makes the soil swell. When it dries out, the grains of soil draw closer together, and the soil shrinks. When soil in this way gets very hard, it is said to be "puddled," and if plowed when too wet it is apt to dry in hard lumps and clods; and this is bad for the crops.

A sandy soil is coarse-grained, while a clay soil is very fine-grained. Therefore, a clay soil will hold about twice as much capillary water as a sandy soil. This capillary water has indeed certain things which go to help make the soil fertile. These I will tell you about in another lesson.

Let me see if you can answer these questions without looking back at the words of this lesson: Of what is the soil made up? What is needed along with a fertile soil to make crops grow? Name the two kinds of soil water? What is the use of each? What kind of soil holds most water?



Fig. 2



For the Young Agriculturist to Read, Write and Remember

By M. G. Rambo

When one pouts about his work, he just putters along.

Smiles drive troubles miles away.

A robin is cheerful all the day long, and he begins it with a song.

The kind word is the only kind to speak.

A sweet voice is perfume from the heart's flower-garden.

A rabbit has long ears, but it carries a short tail.

You cannot tell how pretty the sunrise is with a morning frown on your face.

The task always looks bigger to "wait-a-minute" than it does to "do-it-now."

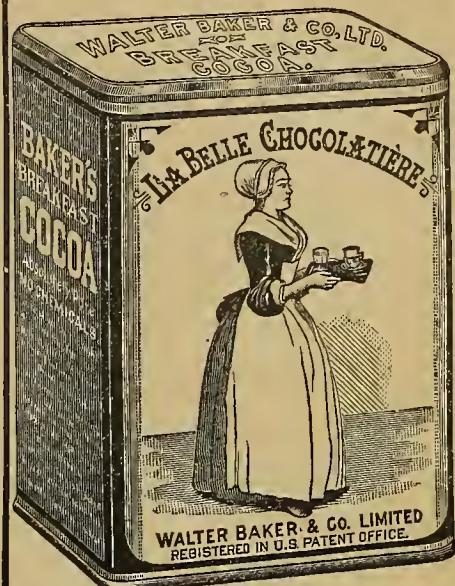
When one always does his best, his best keeps getting better.

Don't put on good manners for company; wear them all the time.

There is no silver lining to the cloud on your face.

Willing hands are the prettiest.

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Factory Price Book

400 Stoves

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The Spelling Lesson

Ag-ri-cul-ture

Mi-cro-scope

Cap-il-la-ry Relating to fine hair-like tubes, or tiny spaces

Grav-i-ta-tion-al Moving because of its own weight, or by the force of gravity

Ac-com-plished

Film A covering like a very thin skin or membrane

A Talk About Spring Fashions

The New Styles, Colors and Fabrics

By Grace Margaret Gould



No. 1975—Kimono-Waist with Double Collar

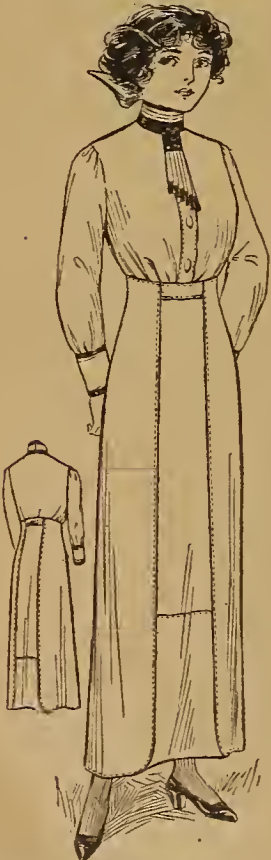
Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material required for medium size, or 36-inch bust, two and three-fourths yards of twenty-two-inch material, or one and three-fourths yards of thirty-six-inch material, with three fourths of a yard of contrasting material for trimming

THE question of whether the spring girl is straight up and down is one every woman is asking just now. The answer is yes, though there is a tendency, and a strong tendency, toward wider effects. In considering these fashion changes, let us begin with the skirts. Everywhere there are rumors of wider skirts, but as yet the actual width is but two and one-half yards. Many of the skirts, however, have what is known as the "kick plait" toward the hem, to make walking more of a pleasure than it has been in the past. Some of the new skirts have the hem slashed in front or at both sides, while others show overlapping panels at both front and back. They are called the "bill-book" skirts. It goes without saying, of course, that all skirts are still unlined.

Of almost as much importance as the tailored skirt is the tailored coat. This season it is quite short, varying from twenty to twenty-eight inches. It is severe in style with rather straight lines, tending just a trifle to the form-fitting effect. The two fashions which prevail the most are the lapped-over effect and the cutaway. One is quite as modish as the other. The correct coat-sleeve is the two-piece, long, plain sleeve, set in with no fulness at the shoulder.

About sleeves in general it is hard to predict, for it always seems to be the unexpected that happens. However, many kimono sleeves will be worn, though the set-in sleeve will predominate. It appears in many varied forms. It is put in at the armhole plain; sometimes this armhole is the normal size, and then again it is extremely large. The set-in sleeve will also be worn having a bell shape at the wrist, or this bell effect will appear at the elbow as a partial covering to the puff which peeps out beneath it. The majority of sleeves will be three-quarter length and medium in size, though tailored coats, shirt-waists and some of the plain dresses will have the long sleeves.

And last, but not least, a word or two about the waist-line. In most of the dresses for spring it is normal, though the high-waist effect will still be worn. Modified basques are now fashionable.

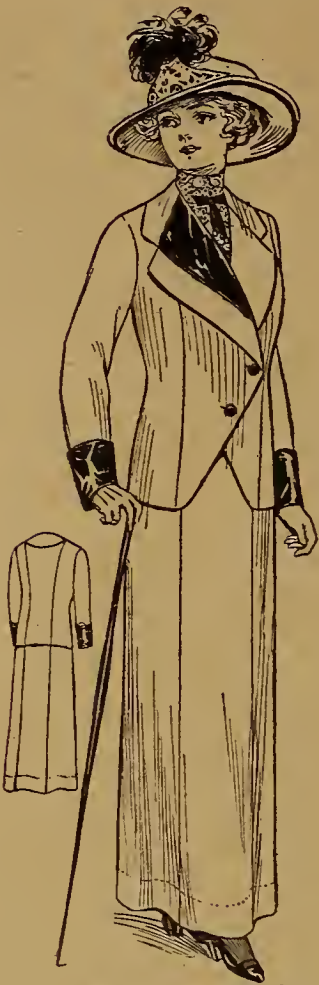


No. 1988—Misses' Plain Tailored Shirt-Waist

Pattern cut for 12, 14, 16 and 18 year sizes

No. 1989—Misses' High-Waisted Skirt

Pattern cut for 12, 14, 16 and 18 year sizes



No. 1965—Semi-Fitted Two-Button Coat

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36-inch bust, three and three-fourths yards of thirty-six-inch material, with one-half yard of velvet. This suit develops well in the new tourist silks

No. 1954—Plain Four-Gored Skirt

Pattern cut for 22, 24, 26, 28, 30, 32, 34 and 36 inch waist measures. Quantity of material required for medium size, or 26-inch waist, four and one-fourth yards of material thirty-six inches wide

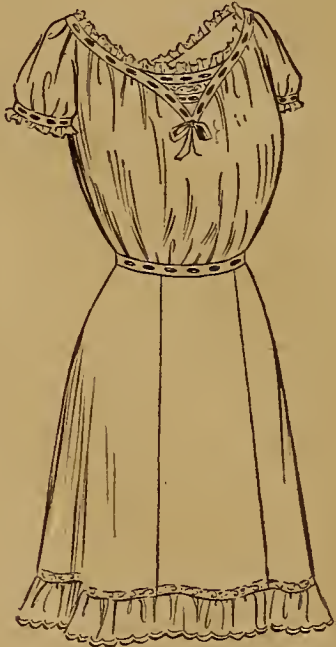


No. 1966—Surplice Waist: Sleeves in New Style

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Quantity of material for medium size, or 36-inch bust, one and one-fourth yards of thirty-six-inch material, with one and one-half yards of contrasting material and seven eighths of a yard of satin

No. 1967—Three-Piece Buttoned-Over Skirt

Pattern cut for 22, 24, 26, 28 and 30 inch waist measures. Quantity of material required for medium size, or 26-inch waist, three and seven-eighths yards of thirty-six-inch material, with one yard of satin



No. 1799—Combination Petticoat and Corset-Cover

Pattern cut for 32, 34, 36 and 38 inch bust measures. Quantity of material required for medium size, or 36-inch bust, three and one-eighth yards of thirty-six-inch material, with three yards of embroidery



IN JUST four days the new spring catalogue of WOMAN'S HOME COMPANION patterns will be ready for distribution. Its price is four cents. Send in your order to-day, for you will need this guide to correct dressing in choosing your new spring and summer clothes. For every design illustrated in this catalogue there is a ten-cent pattern. Both patterns and catalogue may be ordered from Pattern Department, FARM AND FIRESIDE, 381 Fourth Avenue, New York; Pattern Department, FARM AND FIRESIDE, Springfield, Ohio; Pattern Department, FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.

Our Special Premium Offer

To any FARM AND FIRESIDE reader who sends us one new subscription to FARM AND FIRESIDE at the special club price of 35 cents, we will give, as a premium, one WOMAN'S HOME COMPANION pattern. Send the subscription to FARM AND FIRESIDE, Springfield, Ohio.



No. 1983—Mannish Waist with Tucked Front

Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Quantity of material required for medium size, or 36-inch bust, two and one-fourth yards of thirty-six-inch material. This shirt-waist with double group of tucks is an especially stylish one

IN SELECTING new spring clothes, special attention should be given to the materials used in developing them. This season the new materials are divided into four groups: tailored cloths and heavy silks for street clothes, foulards, taffetas and soft materials, like voiles or éolienne cloth, for the afternoon costumes, and for evening wear there are two distinct groups. To the first belong the sheer voiles and chiffons, and to the second group, taffeta silks. In considering the fabrics, they are described in the order spoken of above. Beginning with the fabrics for the tailored suit, cloth has a rival, and a decided rival, in the new tourist silks, which come in the most mannish of patterns, such as stripes and herringbone effects. Tourist silk is an excellent material for warm-weather wear, for, although it is light in weight, it possesses the necessary body for a fabric designed for tailored use, and it will stand the strain of all kinds of weather.

Although these silks will be used by many, the large majority will still cling to cloths. This spring the cloths are rather smooth in finish, with the exception of a few of the mixed chevots, and although they are light in weight, they suggest heaviness and roughness. In black-and-white mixtures, in grays, tans and odd-shaded blues they are very modish and effective combined with black. Of the smooth-finished cloths, worsted and mannish tailored cloths are the most modish. The mannish cloths follow very closely the designs in the materials used for men's suits and are in tan, gray and dark blue. Rather indefinite stripes in contrasting tones are seen in these cloths, while in the worsteds the stripe is quite definite, contrasting with the material, or in the same color in a darker tone.

Appropriate fabrics for afternoon gowns are now considered. Foulard again heads the list, though foulard in many new and charming designs. One has a border in a contrasting color and is finished at the bottom to simulate the much-used fringe. Others show conventional and dotted effects.

In the third and fourth groups are the soft, filmy fabrics in flowered patterns and their rival, the new taffeta in plain colors, in stripes and in changeable tones.



No. 1804—Misses' Tucked Dress

Pattern cut for 12, 14, 16 and 18 year sizes. Quantity of material required for medium size, or 14 years, six yards of twenty-two-inch material, or three and five-eighths yards of thirty-six-inch material, with one-half yard of contrasting material for trimming

The Gift Club's Mail-Bag

By Jean West, Secretary

AND still they come—these many letters from our Gift Club girls all over the country! Such jolly, rollicking letters they are, too! Just overflowing with brightness and good cheer and the one important thing that makes for success—*enthusiasm*! Would you like to read a few of these letters with me? Here they are:

DEAR MISS WEST—

I can't begin to tell you how glad I am that I joined The Gift Club! It's been one never-ending blessing to me. And I don't mean the gifts alone, fine as they are. Your friendly letters and help have been an inspiration to me to do a great many things that once seemed impossible. It's great to be in such close touch with other girls. Thank you a thousand times for that last box of stationery! M. D., Kansas.

The stationery? Oh, that's just one of the many "extras" of The Gift Club. But our girls cannot seem to get used to these surprises. Just listen:

DEAR MISS WEST—

Are you a will-o'-the-wisp, or a really, truly flesh-and-blood girl? It doesn't seem possible that I can get the very thing I've been pining for—a silver comb and brush set—without spending a penny for it. Do satisfy my curiosity and tell me your secret. J. L., Indiana.

Now if Miss J. L. of Indiana could have read this letter, which came in the same mail, her doubts would have been set at rest:

DEAR MISS JEAN—

The beautiful silver toilet-set just arrived, and to say I'm delighted does not half express it. I'm just "tickled to death!" Really, I had no idea the set could be so lovely, for I did almost nothing to earn it. I can't just make up my mind what I want next, but I think it will be the bracelet. MINNIE N., Ohio.

And here is a letter from a Club girl in Maryland who has just received her bracelet. She says, "It's the prettiest thing I ever saw. I like it lots better than my sister's. And she got hers when she graduated, so I know it cost a lot of money." Next comes a letter from a little girl who teaches school in a village in Wisconsin:

DEAR MISS WEST—

If you knew what a comfort that big roomy handbag has been, you would be glad that you sent it to me. I carry it to and from school just loaded down with papers and things; and then there's the fountain-pen! I know I've thanked you for it a dozen times before, but I must tell you once more how much I appreciate and use it. There are many more Club gifts that I want, and you'll hear from me again before long. D. O., Wisconsin.

So many of our girls prefer The Gift Club's silver to all our other presents.

DEAR MISS WEST—

I have been wanting to write to you and tell you that I got those very pretty teaspoons. I did not think they would be so pretty. I showed them to my sister the other day, and she asked me what I gave for them and, of course, was surprised when I told her nothing. I told her about The Gift Club, and she thought it was just grand. I think so, too, and I know that all the other girls who belong think it is just what lonely girls have wished for. E. H., Missouri.

If you want to know how to get all sorts of beautiful gifts for yourself without spending a penny for them, just write to-day to

Jean West

Secretary, The Gift Club,
FARM AND FIRESIDE, Springfield, Ohio.

Some New Books

And a Word About Them

Dairy Cattle and Milk Production, by Clarence H. Eckles, Professor of Dairy Husbandry, University of Missouri, contains a clear statement of the common dairy problems. It takes up breeds, feeding and diseases, so that anyone can understand the work. Pages 342; illustrated; price, \$1.60 net; The Macmillan Company, New York.

Report of the Commissioner of Agriculture of North Carolina—The volume for 1911 is a large and very valuable one. It should be in the home of every Carolina farmer—and should be studied.

Farmers of Forty Centuries, or Permanent Agriculture in China, Korea and Japan, by F. H. King. Our readers have been permitted to see some portions of this rich treat for farmers' minds. Doctor King took to the Orient a mind trained in the principles of agriculture and eyes open to every interesting thing. He found and brought back a feast of good things for the western world. No farmer who seeks knowledge of ways to make the soil respond to intensive farming should fail to read this book. It is intensely interesting. Published by Mrs. F. H. King, widow of the author, at Madison, Wisconsin. 450 pages, 246 illustrations, \$2.50.

Farmers' Manual of Law, by Hugh Evander Willis. This is a 450-page volume, the purpose of which is fully indicated by its title. Men who have long practised law and retired gradually lose confidence in their own knowledge of it, and adopt the policy of going to a man actually engaged in the profession whenever business requires legal skill. The man who is his own lawyer has a fool for a client, but if he is going to be one we know of no better book for him than the very excellent treatise under consideration. We think it likely that its extensive use by farmers will tend to make business good—for the regular lawyers. Orange Judd Company.

County Schools of Agriculture and Domestic Economy in Wisconsin, by A. A. Johnson, United States Department of Agriculture. Good material for those studying agricultural education.

Dry-Farming Investigations in Montana, by Atkinson and Nelson, Montana Agricultural Experiment Station. One of the best bulletins on dry farming we have seen—covers results of six years' work.

"School Agriculture." A monthly bulletin (of which September 1911, is No. 1) published by the West Virginia College

of Agriculture at Morgantown. Teachers and parents should write for it. The first issue deals with "Selecting Seed Corn and Corn Improvement." It is sent free to West Virginia people.

Pecans; Second Bulletin, by W. N. Hutt. A very valuable publication on the culture of the king of all nuts. Shows that one need not wait a generation for returns, and gives descriptions of two fine varieties, the Mantura and Appomattox, which merit extensive tests in elevated regions and as far north as Pennsylvania and southern Iowa. Address the Department of Agriculture of North Carolina, Raleigh, North Carolina, for this bulletin.

Uncle Ike on the Law of Compensation

By John Brown Jewett

AWAY back in primeval times,
When industry began,
It wasn't very thrifty-like
To be a busy man.

For when you'd hunt a mammoth down,
Or spear a juicy fish,
The game belonged to all the tribe,
To make a common dish.

'Twas tribal law—compulsory;
There was no private pelf;
You might say there was not such thing
As workin' for yourself.

And consequently selfishness
Had scarcely learned to sprout;
It took two hundred thousand years
To bring that motive out.

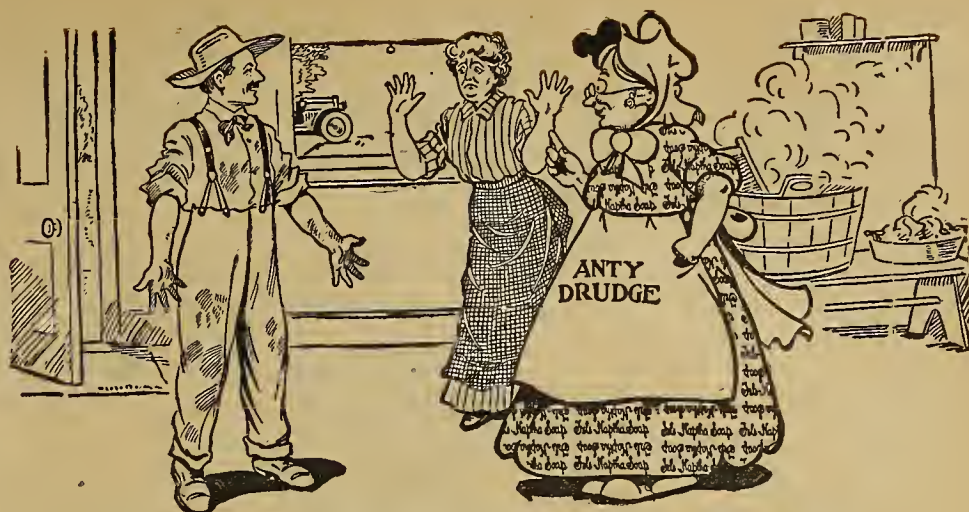
And it may take as long, perhaps,
To lose it from our race,
For time does hate to change a thing
That it has fixed in place.

But somehow that primeval law
Which made man serve his kind
Seems never to have joined the things
That progress leaves behind.

Though in a nation's statute-book
It now would be amiss,
Our social evolution shows
No plainer truth than this:

You still must serve your fellow man,
And fellow woman, too,
To find a living for yourself
In anything you do.

If you want to be miserable, think about yourself—about what you want, what you like, what respect people ought to pay to you, and what people think of you.—Charles Kingsley.



Anty Drudge on automobile stains

Mrs. P. R. Osperous—"Oh, John, how am I ever going to get that grease out of your shirt? I almost wish you had kept the cutunder and we didn't have an automobile. I have to boil the clothes twice as long as I did before."

Anty Drudge—"Since you've spent \$1,500 for one modern improvement, just spend 5 cents for another. Get a cake of Fels-Naptha Soap. Wash your clothes with it in cool or lukewarm water. It will take out grease spots like magic and leave the clothes cleaner than you could with hot water and common soap."

Did your boiler ever spring a leak when you had just filled it with heavy clothes? Or, after you had carefully washed your best white waist or your husband's boiled shirt, did you ever discover that a rust spot had ruined them? Why do you use a boiler, anyhow? Don't you know the new way to wash?—the Fels-Naptha way? It's a godsend to tired women. Saves all the fuss and bother and most of the work. Fels-Naptha Soap makes washing almost a pleasure. You don't need a boiler—just a cake of Fels-Naptha Soap and some cool or lukewarm water—and you do the wash in half the time it used to take.

For full particulars, write Fels-Naptha, Philadelphia

Who Wants a Talking Doll?



WE want every little girl in FARM AND FIRESIDE's extensive family to have one of these beautiful talking dolls. Just think, this doll says "Papa" and "Mama," and cries just like a real baby. She opens and closes her eyes and goes to sleep, and with her pretty face and beautiful hair is just the doll that every girl will want. Her limbs are jointed, and her dress and hat are tastefully and prettily trimmed.

This doll is manufactured abroad, in the country where all of the best dolls are made, and we have gone to considerable trouble and expense in order to secure this doll for our little ones. But we count this as nothing against the pleasure that we know this doll will give to the children, and we want every little girl in our large family to have one.

This Wonderful Doll

Write us to-day, saying that you want to obtain FARM AND FIRESIDE's Beautiful Talking and Sleeping Doll. We will then give you full particulars how the Doll can be obtained without one cent of expense to you.

WRITE AT ONCE TO
FARM AND FIRESIDE
SPRINGFIELD, OHIO

Please tell me how I can get the Talking and Sleeping Doll, without cost.
Name.....
Address.....

Do You Want Prince?

Our
Biggest
Pony Contest
Now Ready



You Can
Win This
Pony
and His
Whole
Outfit

Three Beautiful Ponies for Our Girls and Boys

Every FARM AND FIRESIDE boy and girl will welcome this glorious news. The Pony Man has three more handsome ponies and complete outfits to give FARM AND FIRESIDE's boy and girl friends. Prince, the pony pictured above, is the First Prize. He certainly is a beauty. I think that Prince is the most perfect type of Shetland Pony I have ever seen. He has soft silky brown hair, full, elegant mane and stands only 39 inches high. He weighs just 325 pounds.

My, but he can make the buggy hum. Besides, he is the finest playfellow in the world, chuck full of mischief, but as kind and gentle as can be. The Second and Third Prize Ponies, Dandy and Dick, are also mighty fine ponies. The First and Second Prize Pony Outfits will consist of one high-quality pony buggy, one nickel-plated harness complete. The Third Prize Pony Outfit, one handsome Pony Saddle and high-grade imported Riding Bridle.

Read How to Win Prince

As soon as the Pony Man hears from you he will tell you how to become a contestant for one of these ponies. Don't let anyone tell you that you can't win. You can! Our Pony Offer is so easy and generous that any boy or girl who really wants to can be a winner. FARM AND FIRESIDE has already given away to boy and girl friends more than thirty ponies. Remember, these are really and truly full-blooded Shetland Ponies. The banker, postmaster or any business man will tell you that FARM AND FIRESIDE is published by one of the wealthiest and largest publishing houses in the United States, so you see we can well afford to treat our little friends generously, besides it helps to advertise the paper. Don't you think Prince a handsome reward for doing us a little favor?

The task we ask you to perform will not be hard at all for you. You will really find it the jolliest kind of sport. FARM AND FIRESIDE is known everywhere as the best farm and family paper published, and has literally thousands and thousands of subscribers in every State in the Union. Our contests are absolutely fair and square, and no matter where you live you stand an equal chance of getting Prince. He will be sent direct to the home of the winner, without cost, all shipping charges prepaid. You must send in your name and address to the Pony Man right away.



Here is "Prince"

Some Girls and Boys Who Have Won Pony Outfits

Here are the names and addresses of boys and girls who have won FARM AND FIRESIDE Ponies. If you write any of these children, be sure to enclose a two-cent stamp for your reply.

- | | |
|-----------------------------------|------------------------------------|
| Lena Collins, Mason, Ohio. | Viva McNutt, Vandergrift, Pa. |
| Wilbur Cory, R 9, Auburn, N. Y. | Dorothy Miller, Franklinville, O. |
| Alf Erickson, R 2, Stanhope, Ia. | Herman Morton, Kernersville, N.C. |
| L. K. Foreman, Onocola Mills, Pa. | Iona Morton, Kernersville, N. C. |
| Verne Fulton, North Lawrence, O. | Irma Musante, New London, Conn. |
| Virginia Jamison, Iola, Kansas. | Tom C. Pennington, London, Ky. |
| Howard C. Laidlaw, Walton, N. Y. | Lena Purcell, Halcottsville, N. Y. |
| Margie Lawson, Hopkinsville, Ky. | Allen Webber, New Carlisle, O. |

Don't Wait—Start Now

If you want to make sure of a prize right away and become an enrolled contestant, don't wait until you get your package from the Pony Man, but start right out and get ten friends each to give you 25 cents for an eight-months' trial subscription to FARM AND FIRESIDE. Keep 50 cents for yourself as commission, and send \$2.00 to the Pony Man. Then you will be an enrolled contestant and a prize-winner sure. It is very easy to get subscriptions to FARM AND FIRESIDE, because it is the best farm and family paper ever published. Fill out this coupon.

You will be surprised to find out how easy it really is to win Prince.

MAIL THIS COUPON TODAY

DEAR PONY MAN:
Please let me know by return mail how to win Prince. Also send me free the pictures of Prince and the other ponies, and complete information. I am very anxious to get Prince, so save a place for me in the Contest. I will try to become an enrolled contestant as soon as possible.

Name
Town
R. F. D. State

3 Ponies and Outfits
500 Magnificent Prizes
\$3,000.00 In Cash

FARM AND FIRESIDE is going to give away three Fine Pony Outfits to its boys and girls who take part in this Contest. You surely can win one of these handsome prizes. Just start to-day. There are still more prizes! All told five hundred Grand Prizes are offered, including three elegant Pony Outfits, three handsome Pianos, Talking-Machines, an Estey Organ, Bicycles, Gold Watches, Shotguns, Cameras and everything that a boy or girl might want.

Write to the Pony Man To-day

Do it this very minute. You can be the first to start, and that means a big advantage. Send to the Pony Man to-day for complete information about the new Pony Contest. Sit right down and write the Pony Man a letter or post-card, or send the coupon on the corner of this page. Be sure to write your name and address plainly so that there would be no mistake in sending you the Pony should you be a winner. The task the Pony Man will require of you in order to win a Pony is something that any boy or girl who can drive a Pony can do. You will get a letter from the Pony Man telling you just how to win Prince, together with complete information and all necessary material to start right in and win. It is very important that you should send in at once. It won't cost you a penny and does not bind you to do a single thing. Don't wait, but write to-day. Now, Write the Pony Man for contest order blanks and full information about the new Pony Contest right away. If you want to make sure of a big prize and become an enrolled contestant at once, just ask ten of your friends to give you 25 cents each for an eight-month subscription to FARM AND FIRESIDE. You will have ten Pony Credits and be a full-fledged contestant for sure. You keep 5 cents out of each subscription as your cash commission.

THE PONY MAN, FARM AND FIRESIDE, Springfield, O.

Spring Pleasures

For the Country Woman and Her Daughters

By Alice M. Ashton

SO MANY of our country women feel they are too busy to spend time for mere enjoyment. Yet they seriously feel the need of association with other women. Why not have "busy" parties?

Here are several which surely cannot be looked upon as a waste of time:

Sewing Party—Get together the materials for the spring sewing, with patterns, thread and trimmings. Have the machine in the best condition, the shears sharpened and a good cutting-table ready. Cut out some or all of the garments, as desired.

Then invite the neighbors for an afternoon sewing party, with a late supper, and ask the men to join you!

It is surprising what a pile of plain sewing will be accomplished and what a pleasant visit can be had. A neighborhood club of this kind, where each member is visited in turn, proves a delightful solution of the problem of spring and fall sewing, as well as the lack of social intercourse in our rural districts.

Supper should be plain and substantial. The evening can be passed in games and music, or in the systematic study and discussion of rural problems.

A Quilting Party disposes of a tedious piece of work very pleasantly.

Since the revival of rag rugs, the most progressive of country housewives are proud to own them. But the preparation done by one pair of hands is a tedious matter. Invite the women in your neighborhood, and request each one to bring her shears.

In preparation, press the rags, and tear into pieces of uniform widths. Some of them may be very wide, graduating to narrow ones, according to pieces. Place the same widths in piles by themselves regardless of length. Lap the end of one piece about an inch over another, and pin; then stitch on the machine close to each edge and twice between, making four rows of stitching on the lap. When a long piece has thus been made, join the ends in the same way, except that an inch of one edge should lap past the other at the side as a start for cutting. All of the rags, except the small, odd bits, are quickly made into such belts. Each lady can take one of the belts for cutting, and when completed, it is ready to wind into a ball, as the sewing is already done.

A Mending Club—In one country locality the women organized a mending club which met every Thursday afternoon with the members in turn. Each took her own mending, and only such refreshments as fruit, or tea and cake, were served, as they went home for supper. These busy women found much help and inspiration at these weekly gatherings.

To make them of real value, a course of readings, such as can be obtained from an agricultural college or the agricultural department, is of immense value and interest. Or some special topic for conversation may be chosen for each meeting, allowing each member a stated time for discussion. It is astonishing how much this will change the viewpoint of many a discouraged and discontented country woman.

A Topsy-Turvy Party—But the younger members of the community will demand other entertainments in which work has no part. So what could be more appropriate for the supposedly mad month of March than a Topsy-Turvy Party? Do everything in a most unusual way, and it will furnish no end of fun.

To begin with, let the guests enter the house by the most unused door. If there is a convenient outside cellar door, lanterns might be hung to light the way, and this used as an entrance. Greet each arrival with a queer remark, such as: "Good-by," or "Sorry you could not come!" Have them remove their wraps in the kitchen.

Plan some peculiar "twist" to all the familiar old games.

Supper might be served in paper sacks. Let two persons pass about the rooms with a large basket filled with the bags, each tied with a bit of white twine. Inside will be sandwiches, pickles and cake or doughnuts wrapped daintily in waxed paper.

The hostess might then announce: "Now you have your supper in these bags, you may as well go to the kitchen and get ready to start for home."

In the kitchen a table should have been spread with dishes, salads, coffee and whatever else may be desired.

If after supper the utmost propriety is observed for the remainder of the evening, it will be even more amusing.



An April-Fool Party—One girl gave a pleasant April-Fool Party. She persuaded a neighbor to invite the young folks to the neighbor's home. When they all were sent trooping over to the girl's house instead, they experienced the first "fool" of the evening.

When they entered the house, the only lights visible were upstairs in the rooms where they were to remove their wraps. When they came back at the end of the evening, these rooms were dark and in order. After some searching, the wraps were found down-stairs in a back hall.

All sorts of jokes were scattered about the house. Some of them were a tempting dish of apples and oranges with the insides scooped out. English walnuts with fortunes instead of meats. A handkerchief tacked to the floor which, of course, every polite young man endeavored to pick up for someone. A bottomless chair with a cushion laid over the top, which allowed one to sink down unexpectedly but not disastrously. Magazines with the leaves pasted together.

Progressive games were played. The winner of the first prize received a huge bag of pop-corn. When it was eaten, a silver spoon was found in the bottom of the bag.

When the guests were seated at the table, there was nothing whatever upon it except the cloth. After a time coffee and sandwiches were served. When these were removed, a large pie made by covering a big baking-pan with a brown paper "crust" was placed in the center of the table, and each guest was given the end of a ribbon which passed through a slit in the crust. A small plant-jar was then set before each guest with a tulip standing up in the earth in the jar. The stem of each flower was wrapped carefully in waxed paper and pushed into the vanilla ice-cream with its chocolate-sauce covering, with which the jars were filled after being thoroughly washed and lined with waxed paper. From the pie each guest drew a spoon and a box of cake.

Emergency Life-Preservers

By George E. Walsh

IN SUDDEN emergency on the water, the value of a life-preserver is a thousand times its intrinsic worth when not especially needed. A great many ordinary articles can be used as life-preservers if one has the quick wit to know what to do at the right moment. It requires a very little support to keep one up in the water until help arrives, but one who does not understand anything about swimming, floating or treading water is very apt to lose his head, and in his fright he frequently does the wrong thing.

Last summer a young man who was an indifferent swimmer saved his life by knowing something about the buoyancy of imprisoned air. He was tipped over in his canoe, and when he came to the surface again the tide had carried the canoe a long distance from him. But an ordinary tin-pail, which had been in his canoe, floated within a foot or two of his head. He grasped this, turned it upside down, and threw both arms around it. He had sufficient support to keep him afloat for hours, for the air imprisoned under the pail held him up easily.

A wooden pail or bucket holding as little as two gallons is sufficient to support one in the water if it is inverted and held firmly by both hands. One of the queerest life-preservers is a dish-pan. If there is nothing else handy, throw a dish-pan to the struggler in the water, and if he will turn this upside down and cling to it he cannot sink. His head will always be above the water.

There is the story told of an excited old gentleman throwing his silk hat off a ferry-boat to help a struggling man in the water. The sequel of the story might have been different if the swimmer had understood the supporting power of a silk hat when properly used. A high hat inverted so as to imprison the air in the crown makes a most excellent life-preserver, and will support one for a long time. Even a modern derby hat with a deep crown will keep one's head out of the water until the hat gets soaked and some of the air escapes.

How many who go boating and sailing ever imagined that the pink and red parasols or the black umbrellas carried for sun or rain make excellent emergency life-preservers? If the umbrella is opened and put in the water with the handle down, and then grasped carefully by the hands on two sides, it will support a man or woman. It will be impossible to sink the person so long as the air is imprisoned under the umbrella. As the umbrella, like

the hat, is not absolutely air-tight, the leak of the air in time will render the life-preserver useless, but for emergencies to save one's life until help arrives the umbrella is an excellent thing.

It requires so little to support one in the water sufficiently to keep the head above the surface that it is a wonder so many accidents end fatally. For instance, a foot-ball or one of the big rubber balls that children play with will support a half-grown lad and even a young man. Two of the ordinary air balloons sold for five cents apiece in the market will support a man in the water. A cast-off bicycle tire blown up and thrown overboard is as good a life-preserver as any on the market. The corks of twenty bottles strung together or put in a bag will keep one from drowning until help arrives. Even a tin dipper holding only a quart of water can be used by an exhausted swimmer in resting on the surface of the water. Even a thin waterproof coat which girls and ladies wear to-day can be used. As the coat is waterproof, it is only a question of opening it and imprisoning as much air as possible before the sides are drawn down into the water. It will float then like a balloon and hold up a full-grown man or woman.

When a person falls overboard, the nearest object that will float should be thrown to him. If the person is cool and collected, a block of wood, an oar, or some other small thing may save his life. One who cannot swim should learn in advance how to use articles which can be inverted to imprison air, and a little practice with a pail, dish-pan, umbrella, ball and balloons, and an old hat when in bathing, will prepare him for emergencies.

Why Some Boys Have Left the Farm

[CONTINUED FROM PAGE 31]

him through college, and to-day he is doing well in one of our large cities. Why not give these bright boys a square deal, and then perhaps we will be able to keep them on the old farm?

You ask, do these children not become accustomed to the hardships of farm life such as I have given? Does the mule become accustomed to the dark mine? Yes, so accustomed that to the dumb beast there is no darkness, there is no light.

Is not the servant worthy of his hire? That is the question for the farm father to answer. Away with that innate feeling that, because he is your son, he must work and toil and labor for nothing.

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EASTER Post-Cards for You

WE want every reader of FARM AND FIRESIDE to have a set of our beautiful Easter Post-Cards. These cards are the latest and finest production of the post-card manufacturer. Just think, the artist who designed these cards worked on them for more than a whole year.

Magnificent Designs

Never before have we seen such a perfect display of post-card art. They are beautiful beyond comparison. Each card in the assortment we have for you is different, but every card is a complete and perfect picture. These cards are bound to excite the admiration of all your friends, but it will be impossible to obtain more like them after our supply is exhausted.

Each card is printed in from twelve to fourteen colors and gold. The variety is perfectly wonderful. No two cards in the assortment we have for you are alike. The gorgeous embossing, rich colors, dainty and delicate touches brought out in each card show the work of a master artist. Some of the subjects portrayed in the pictures are **rosy-cheeked children, beautiful flowers and landscapes, Easter rabbits, Easter eggs.**

OUR TEN-DAY OFFERS

Offer No. 1. Every reader who sends us \$1.00 in payment of a three-years subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a set of fifty Easter Post-Cards, all charges prepaid.

Offer No. 2. Every reader who sends us 50c. in payment of a one-year subscription to FARM AND FIRESIDE, either new or renewal, will receive as special premium a set of fifty Easter Post-Cards, all charges prepaid.

Offer No. 3. Get two of your neighbors to hand you 35 cents each (special club-raiser price) for a year's subscription to FARM AND FIRESIDE. Send us the 70 cents for the two subscriptions, and we will send you as special reward our set of fifty beautiful Easter Post-Cards, all charges prepaid.

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